

1261
1552
.a

HARVARD UNIVERSITY



Ernst Mayr Library
of the Museum of
Comparative Zoology

MCZ
LIBRARY

FEB 27 2006

HARVARD
UNIVERSITY

BRITISH JOURNAL OF ENTOMOLOGY AND NATURAL HISTORY
VOLUME 17, PART 1, APRIL 2004

ARTICLES

- 10 Invertebrate conservation in the UK – the role of Invertebrate Link (JCCBI) and the British Entomological and Natural History Society. O. D. CHEESMAN & J. W. PHILLIPS
- 15 Notes on the distribution and habitats of some species of British Hemiptera. M. D. EYRE, J. C. WOODWARD & M. L. LUFF
- 25 The digital photography of set insect specimens. M. J. TAYLOR
- 35 The predation of slugs by the New Zealand flatworm, *Arthurdendyus triangulatus* (Dendy) (Terriola: Geoplanidae). P. H. GIBSON & D. J. COSENS
- 39 Green deserts? The invertebrate fauna of mown grass playing fields. R. A. JONES
- 45 First record of *Pteromalus leucanthemi* Janzon (Hymenoptera: Pteromalidae) in Britain, with notes on identification and biology. A. POLASZEK, D. APLIN, V. K. BROWN & A. C. GANGE
- 51 *Elymana kozhevnikovi* Zachvatkin (Hemiptera: Cicadellidae) in Britain: identification, distribution and habitat. M. D. EYRE, J. C. WOODWARD & M. L. LUFF

SHORT COMMUNICATIONS

- 9 The 'pondweed' leafhopper *Macrosteles* (= *Erotettix*) *cyane* (Boheman) (Cicadellidae) rediscovered in Surrey. J. S. DENTON
- 23 The horsefly *Atylotus rusticus* (L.) in the Central Weald. A. STUBBS
- 24 *Lasius brumens* (Latr.) (Hymenoptera: Formicidae): house ant, hero and coward. P. J. ATTEWELL
- 33 Status of *Paysandisia archon* (Burmeister) (Lepidoptera: Castniidae) in southern Europe. T. HOLLINGWORTH
- 44 *Sisyra terminalis* (Neuroptera: Sisyridae) at Richmond Park, Surrey, in 1994. M. C. HARVEY

PROCEEDINGS & TRANSACTIONS / SOCIETY NEWS

- 1 The 2002 Presidential Address – Part 2. A History of Fishing Flies. P. C. BARNARD

REVIEWS

- 34 *Butterflies of the Bristol region* by R. Barnett, R. Higgins, T. Moulin & C. Wiltshire. R. BARRINGTON
- 49 *Butterflies in Slovenia* by D. Withrington. A. STUBBS
- 50 *Photographic atlas and identification key to the robber flies of Germany* CD-ROM by F. Geller-Grim. A. STUBBS
- 53 *Butterflies of Cyprus* by C. Makris. R. PARKER

ANNOUNCEMENTS

- 54 The Common Plants Survey 2004
- 55 UK BAP Priority Species Review 2005: the role of Invertebrate Link (JCCBI)
- ibc British Entomological and Natural History Society Officers and Council for 2004/2005
- ibc Amateur Entomologists' Society

July 2004

ISSN 0952-7583

Vol. 17, Part 2

MCZ
LIBRARY

JUL 25 2004

HARVARD
UNIVERSITY

BRITISH JOURNAL OF ENTOMOLOGY AND NATURAL HISTORY



BRITISH JOURNAL OF ENTOMOLOGY AND NATURAL HISTORY

Published by the British Entomological and Natural History Society
and incorporating its Proceedings and Transactions

Editor: J. S. Badmin, Ecology Group, Canterbury Christ Church College, The Mount, Stodmarsh Road, Canterbury, Kent CT3 4AQ (Tel/Fax: 01227 479628) email: jsb5@cant.ac.uk
Associate Editor: M. Wilson, Ph.D., F.R.E.S., F.L.S. Department of Biodiversity & Systematic Biology, National Museums & Galleries of Wales, Cardiff CF10 3NP. (Tel: 02920 573263) email: Mike.Wilson@nmgw.ac.uk

Editorial Committee:

D. J. L. Agassiz, M.A., Ph.D., F.R.E.S.	T. G. Howarth, B.E.M., F.R.E.S.
R. D. G. Barrington, B.Sc.	I. F. G. McLean, Ph.D., F.R.E.S.
P. J. Chandler, B.Sc., F.R.E.S.	M. J. Simmons, M.Sc.
B. Goater, B.Sc., M.I.Biol.	P. A. Sokoloff, M.Sc., C.Biol., M.I.Biol., F.R.E.S.
A. J. Halstead, M.Sc., F.R.E.S.	T. R. E. Southwood, K.B., D.Sc., F.R.E.S.
R. D. Hawkins, M.A.	R. W. J. Uffen, M.Sc., F.R.E.S.
P. J. Hodge	B. K. West, B.Ed.

British Journal of Entomology and Natural History is published by the British Entomological and Natural History Society, Dinton Pastures Country Park, Davis Street, Hurst, Reading, Berkshire RG10 0TH, UK. Tel: 01189-321402. The Journal is distributed free to BENHS members.

© 2004 British Entomological and Natural History Society.

Typeset by Dobbie Typesetting Limited, Tavistock, Devon.
Printed in England by Henry Ling Ltd, Dorchester, Dorset.

BRITISH ENTOMOLOGICAL AND NATURAL HISTORY SOCIETY

Registered charity number: 213149

Meetings of the Society are held regularly in London, at the rooms of the Royal Entomological Society, 41 Queen's Gate, London SW7 and the well-known ANNUAL EXHIBITION is planned for Saturday 13 November at Imperial College, London SW7. Frequent Field Meetings are held at weekends in the summer. Visitors are welcome at all meetings. The current Programme Card can be obtained on application to the Secretary, J. Muggleton, at the address given below.

The Society maintains a library and invertebrate collections at its headquarters in Dinton Pastures, which are open to members on various advertised days each month, telephone 01189-321402 for the latest meeting news. The Society's web site is: <http://www.BENHS.org.uk>

Applications for membership to the Membership Secretary: A. Godfrey, 90 Bence Lane, Darton, Barnsley, South Yorkshire S75 5DA.

Subscriptions and changes of address to the Membership Secretary: R. D. Hawkins, 30d Meadowcroft Close, Horley, Surrey RH6 9EL.

Non-arrival of the Journal, faulty copies or other problems arising from distribution of the Journal or notices to the **Distribution Secretary:** D. Young, 22 Wordsworth Close, Saxmundham, Suffolk IP17 1WF. Tel: 01728 603568.

Orders for books and back numbers of the Journal and Proceedings to the Sales Secretary: G. Boyd, 91 Fullingdale Road, Northampton NN3 2PZ. Tel: 01604 410056.

General Enquiries to the Secretary: J. Muggleton, 30 Penton Road, Staines, Middlesex TW18 2LD. Tel: 01784-464537. email: jmuggleton@compuserve.com

Society Website: www.benhs.org.uk for recent information on the Society's meetings programme and general society details.

Cover photograph: Cottony cushion scale, *Icerya purchasi* Maskell adults with ovisacs. Photo: Crown copyright CSL.

NOTE: The Editor invites submission of photographs for black and white reproduction on the front covers of the journal. The subject matter is open, with an emphasis on aesthetic value rather than scientific novelty. Submissions can be in the form of colour or black and white prints or colour transparencies.

AUG 25 2004

HARVARD
UNIVERSITY

OFFICERS' REPORTS FOR 2003

COUNCIL REPORT 2003

The Council continues to meet seven times a year in the rooms of the Royal Entomological Society, South Kensington, with an average of 15 members attending on each occasion. In addition, the Society has five other committees, involving a total of twenty members. These committees meet at irregular intervals during the year or conduct their business by telephone, post and e-mail.

During the year, the Council approved 52 applications for membership, while twelve members resigned and four deaths were reported to the Society. Thirteen members were struck-off for non-payment of subscriptions but one was re-instated shortly afterwards. The overall result of these changes has been positive, with the membership at the end of the year standing at 898, an increase of 24 on the previous year. The decrease in the number of members struck-off is in a large part due to the effort put in by our Assistant Treasurer, Roger Hawkins, in pursuing late payers. It would, of course, be better if he did not have to spend time doing this and we would urge members to pay by standing order if possible and to remember to write and tell us when they no longer wish to be members. A new membership list, prepared by Graham Collins, was published and distributed to members at the beginning of the year.

Three members, Dr M. W. Harper, C. L. Nissen and C. F. Rivers, completed 50 years' continuous membership at the end of the year and have been elected Special Life members. Following a query by a member, the Council has corrected an anomaly whereby Life members who completed 50 years' membership were not elected Special Life members. The Council considered that as Special Life membership was an honour given to those who had supported and, in many cases, served the Society for a long period, it should apply to all members, however they paid their subscriptions. As a result, Dr J. A. Cornelius, Mrs C. Foord, B. Goater, S. W. Humphrey, D. J. Janson, C. G. Roche and R. W. J. Uffen, have joined the list of Special Life members. We wish them, and all our Special Life members, good health and continuing enjoyment of membership of the Society.

The Society's meetings have met with mixed success. The Field Meetings programme for 2003 listed 35 events between April and October, and included three meetings, in Surrey, Oxfordshire and Nottinghamshire, on National Moth Night. Meetings were held from Devon to Easter Ross and from Shropshire to Suffolk. Attendance varied from a dozen or more to nil and this was not obviously related to the weather or to the reputation of the site or the leader. Some of the meetings focused on particular target species, such as UK Biodiversity Action Plan (BAP) priority moths, and in some cases these were found. Five meetings were held jointly with the British Plant Gall Society and these appear to have been popular – the BPGS have requested further joint meetings in 2004. The monthly evening lecture meetings in the rooms of the Royal Entomological Society have continued to be poorly attended. Even the AGM has suffered, with only nineteen members being present to hear a fascinating talk from the retiring President. The Council can only speculate on why this is. With an increasing membership and large pool of members living in London, we might have expected attendances at these meetings to be much better than they are. The reasons why members, especially those living in the Greater London boroughs, are reluctant to attend evening meetings in South Kensington may be outside the control of the Society, but it would be helpful to know what they are. Perhaps members would like to write and tell us why? Seventeen Open Days were held at the Pelham-Clinton Building and there were seven workshop meetings

covering various groups of Coleoptera, Hymenoptera, Diptera, and Hemiptera, together with a joint meeting with the British Plant Gall Society. It would seem that the membership is telling us to concentrate our efforts on these weekend, out of London, events. The Society's rooms were used during the year for committee meetings by the Entomological Club and by the British Myriapod and Isopod Group (BMIG). Discussions are continuing with BMIG concerning the incorporation of their library and collections with ours in the Pelham-Clinton Building. Once again Mike Simmons organised a successful Annual Exhibition and Dinner at Imperial College in November. This event also seems to have been affected by the London meeting malaise with an attendance of 165 members being the lowest for some years. At the same time, given the disparate interests and backgrounds of members of the Society, it is still an achievement to get 20% of the membership together at one place and time. The recovery in numbers attending the Annual Dinner has been maintained in part, no doubt, due to the much improved meals provided by the College.

The Council came under considerable pressure during the year to expel a member for allegedly committing a wildlife crime and this led to the Council distributing a policy document to all members. Clearly the Council cannot comment or act on matters that are *sub judice*, but we can assure the membership that, should any member be found guilty of a wildlife crime, the Council will take action which is commensurate with the crime. We know of no Society member who has been convicted of a wildlife crime and the presumption of innocence until proven guilty must be the Society's only policy. The matter has resulted in the resignation of two members, one on either side of the argument, which may put this issue and the Council's response in perspective. On other conservation issues the Society has made representations to the Department for Environment, Food and Rural Affairs (DEFRA), via Invertebrate Link, concerning the interpretation of the Countryside and Rights of Way Act with regard to members recording and taking insects on land open to public access. The Society has also contributed to consultations on a review of Part 1 of the Wildlife and Countryside Act. Buglife—the Insect Conservation Trust has continued to receive the Society's support and together with the Amateur Entomologists' Society we proposed Dr John Feltwell as new Buglife trustee. Dr Feltwell was duly elected a trustee. In supporting Buglife, the Society does not necessarily endorse all its statements and actions. John Muggleton has represented the Society on the steering group set up to oversee the planning of Butterfly Conservation's National Macromoth Recording Scheme, and the Society gave a grant of £1000 to assist with the planning phase of the scheme. The Heathland Fly Project, in which the Society acts as Lead Partner for work on three BAP fly species, formally ended in 2003. The project was equally funded over five years by grants from English Nature and the Society and has increased our knowledge of the biology of the beeﬂies *Thyridanthrax fenestratus* and *Bombylius minor*. The third species, the hoverfly *Chrysotoxum octomaculatum*, has remained elusive throughout. The project has also enabled some techniques to be developed for use with these species and the Society should take credit in being the only voluntary body to have Lead Partner status. The final report will allow interim management recommendations to be made and positive discussions have been held with representatives of landowners and managers such as English Nature, the Ministry of Defence, the National Trust and the Surrey Wildlife Trust. The future of funding for this project is uncertain but we hope that some further progress can be made and that there will be an opportunity next year to present some of the results to the membership. The Council is grateful to Stephen Miles for his enthusiasm and work in directing this project.

There have been no new publications this year but the Publications Committee continues to provide encouragement and support to the authors working on the Society's next planned new publications on British Plume moths, Heteroptera, and craneflies, as well as on a revision of *New British Beetles*. A new edition of the *Field Guide to the Smaller British Lepidoptera* is being considered and one member has already volunteered to assist with this.

As is customary, we cannot end without thanking the band of members who work behind the scenes supporting both the Council and the Society. Without them there would be no publications, no sales, no distribution, no exhibition, no Society.

JOHN MUGGLETON

TREASURER'S REPORT

FINANCIAL YEAR TO 31 DECEMBER 2003

This year the financial markers have been positive and some of the unrealised losses sustained on our investments in recent years have been clawed back. There is still some distance to go however, before the recovery is complete. Your finance committee has been looking hard at the investments and a decision has been made to pull out of the worst performing bond and reinvest. Our present cash reserves are still sufficient to allow us to go through 2004 without selling investments.

The accounts reflect the difference to the Society of a year when there was no new publication. Activity is generally down compared with the previous year and this is shown in both income and expenditure. We spent £5,698 more than we received, to which should be added depreciation of £5,946 to give net outgoings of £11,644. After taking into account the unrealised items, there was an overall reduction in all the funds together of £5,174. Although this is sustainable for some time and does not pose a threat to our activities, we must find ways of reversing the deficit over the next few years. Members are reminded of the form suggesting charitable bequests to the Society that I issued during the year.

Our management costs are now running at just over 6% of our income and I will be pleased if we can maintain this level, but it must be borne in mind that many members who undertake voluntary work for the Society do not claim reimbursements to which they are entitled, thus masking the true cost. I thank them for their generosity.

Although most areas of expenditure have been well controlled, the sharply increasing printing and distribution costs of the *Journal* give cause for some concern and your Council will be considering ways of combating this in the coming year.

Once again A. S. Harmer has undertaken the independent examination of the financial records, this year together with H. G. M. Middleton. We thank both of our auditors for their contribution.

A. J. PICKLES

Trustees' Report

The principal activities of the Society are to hold meetings at the Society's Rooms for the reading of original papers, discussions and lectures, to hold an annual exhibition and field meetings; to issue publications and to form typical collections and a library. These activities are carried on with the object of promoting and advancing research in biological science and its diffusion.

The Society has enjoyed another successful year with a varied programme of Field Meetings, Indoor Meetings and Workshops. Further grants for entomological research have been made from the Maitland Emmet BENHS Research Fund and from the Hering Fund.

A detailed risk assessment has been ongoing during the year.

Signed on behalf of the Trustees
J. MUGGLETON, Secretary

Independent Examiners' Report

We report on the accounts of the Society for the year ended 31 December 2003, which are set out on the following pages.

Respective Responsibilities of Trustees and Examiners

As the Charity's Trustees you are responsible for the preparation of the accounts, you consider that the audit requirement of Section 43 (2) of the Charities Act 1993 does not apply. It is our responsibility to state, on the basis of procedures specified in the General Directions given by the Charity Commissioners under Section 43(7)(b) of the Act, whether particular matters have come to our attention.

Basis of Independent Examiners' Report

Our examination was carried out in accordance with the General Directions given by the Charity Commissioners. An examination includes a review of the accounting records kept by the Charity and a comparison of the accounts presented with those records. It also includes consideration of any unusual items or disclosures in the accounts, and seeking explanations from you as Trustees concerning any such matters. The procedures undertaken do not provide all the evidence that would be required in an audit, and consequently we do not express an audit opinion on the view given by the accounts.

Independent Examiners' Statement

In connection with our examination, no matter has come to our attention:

1. which gives us reasonable cause to believe that in any material respects the requirements
 - a. to keep accounting records in accordance with Section 41 of the Act, and
 - b. to prepare accounts which accord with the accounting records and to comply with the accounting requirements of the Act, have not been met; or
2. to which, in our opinion, attention should be drawn in order to enable a proper understanding of the accounts to be reached.

A. S. HARMER AND H. G. M. MIDDLETON

*Statement of Financial Activities
for the year ended 31 December 2003*

	Unrestricted Funds	Restricted Funds	Endowment Funds	Total Funds 31.12.03	Total Funds 31.12.02
<i>Incoming Resources:</i>					
Bequests and donations	351	—	—	351	1492
Subscriptions	12133	—	—	12133	12614
Investment Income	5737	4064	812	10613	10996
Trading Income note 2	1630	10716	—	12346	19076
Sundry Income note 3	1302	—	—	1302	1269
<i>Total Incoming Resources</i>	<i>21153</i>	<i>14780</i>	<i>812</i>	<i>36745</i>	<i>45447</i>
<i>Resources Expended:</i>					
<i>Direct Charitable Expenditure:</i>					
Cost of Journal & Distribution	12958	—	—	12958	9986
Cost of facility at Dinton Pastures	—	3768	—	3768	3533
Members Meetings & Services	7523	—	—	7523	8675
Library & Curation	2394	—	—	2394	3248
Grants notes 10, 11	2982	—	422	3404	4608
Depreciation	3736	2210	—	5946	6361
	29593	5978	422	35993	36411
<i>Other Expenditure:</i>					
Management costs	2416	—	—	2416	4964
Trading costs note 2	—	9980	—	9980	13063
	2416	9980	—	12396	18027
<i>Total Resources Expended</i>	<i>32009</i>	<i>15958</i>	<i>422</i>	<i>48389</i>	<i>54438</i>
<i>Net Resources before transfers</i>	<i>(10856)</i>	<i>(1178)</i>	<i>390</i>	<i>(11644)</i>	<i>(8991)</i>
<i>Net Incoming/Outgoing Resources</i>	<i>(10856)</i>	<i>(1178)</i>	<i>390</i>	<i>(11644)</i>	<i>(8991)</i>
<i>Gains & Losses on Investment assets:</i>					
Realised	—	—	—	—	—
Unrealised	3496	2479	495	6470	(25814)
<i>Net movement in Funds</i>	<i>(7360)</i>	<i>1301</i>	<i>885</i>	<i>(5174)</i>	<i>(34805)</i>
Fund Balances brought forward at 1 January 2003	109440	279393	15016	403849	438654
<i>Fund Balances carried forward at 31 December 2003</i>	<i>102080</i>	<i>280694</i>	<i>15901</i>	<i>398675</i>	<i>403849</i>

Summary Income and Expenditure Account

	2003	2002
Gross Income of continuing operations	36745	45447
Total expenditure of continuing operations	48389	54438
<i>Net Income/Outgoings for the year</i>	<u>(11644)</u>	<u>(8991)</u>

Balance Sheet as at 31 December 2003

	Notes	2003	2003	2002	2002
<i>Fixed Assets:</i>					
Tangible Assets	4		164050		169996
Investments	5		202861		196391
			<u>366911</u>		<u>366387</u>
<i>Current Assets:</i>					
Stocks		17009		20558	
Debtors	6	10468		10954	
Cash at Bank and in hand	7	13197		13232	
		<u>40674</u>		<u>44744</u>	
<i>Creditors: amounts falling due within one year</i>	8	<u>8910</u>		<u>7282</u>	
<i>Net current assets</i>			<u>31764</u>		<u>37462</u>
<i>Net assets</i>			<u>398675</u>		<u>403849</u>
<i>Funds:</i>					
Endowment Funds – Hering Fund	9		15901		15016
Restricted Funds – Housing Fund		208470		207905	
Special Publications Fund		<u>72224</u>	<u>280694</u>	<u>71488</u>	<u>279393</u>
<i>Unrestricted Funds:</i>					
Maitland Emmet BENHS					
Research Fund		50786		50021	
General Fund		<u>51294</u>	<u>102080</u>	<u>59419</u>	<u>109440</u>
			<u>398675</u>		<u>403849</u>

The accounts were approved by the Trustees on 4 March 2004 and signed on its behalf.

*Notes to the accounts
for the year ended 31 December 2003*

1. Accounting Policies

The Accounts of the Charity are prepared in accordance with the Charities (Accounts and Reports) Regulations 1995, the statement of recommended

practice, Accounting by Charities, and with applicable accounting standards. They are drawn up on the historical accounting basis except that investments held as fixed assets are carried at market value.

1.1 Income

Donations and legacies are accounted for as soon as their amount and receipt are certain. In the case of donations this is usually when they are received. All other income is accounted for under the accruals concept. Gifts in kind are valued at their estimated value to the Charity.

1.2 Expenditure

Expenditure is accounted for under the accruals concept. The irrecoverable element of VAT is included with the item of expense to which it relates. Depreciation is allocated over the expenditure headings on the basis of the use of the assets concerned.

1.3 Tangible Fixed Assets

Tangible fixed assets are stated at cost or trustees' valuation less depreciation which is calculated at rates to write off the excess of cost over estimated residual values of individual assets over their estimated useful lives as follows

Leasehold Buildings at Dinton Pastures	1/70th of cost
Fixtures and Equipment	10% of written down value

1.4 Investments

Fixed asset investments are stated in the balance sheet at mid market value at the balance sheet date.

1.5 Stock

Stock is valued at the lower of cost, including irrecoverable VAT, and market value and consists of publications and sundries held for resale.

1.6 Restricted Funds

Restricted funds are subject to specific conditions laid down by the donors as to how they may be used.

2. Trading Income and Expenditure

Trading income is derived from the sale of the *British Journal of Entomology* to non-members of the Society and from sale of the Society's other publications and products, costs are those of printing and distributing these items.

3. Sundry Income

Sundry income has been derived from the sale of surplus books and specimens, photocopying and income from the annual dinner.

4. Tangible fixed assets

<i>Cost</i>	Leasehold Property £	Fixtures & Equipment £	Total £
At 1 January 2003	154736	69399	224135
Additions	—	—	—
Disposals	—	—	—
At 31 December 2003	154736	69399	224135
<i>Depreciation</i>			
At 1 January 2003	22100	32039	54139
Charge for year	2210	3736	5946
On disposals	—	—	—
At 31 December 2003	24310	35775	60085
<i>Net book values</i>			
At 31 December 2003	130426	33624	164050
At 31 December 2002	132636	37360	169996

Leasehold premises represents the cost of building and equipping the headquarters at Dinton Pastures Country Park. The total cost of these premises which were completed during the year to 31 December 1993 are being amortised over the seventy year term of the lease.

Fixtures and equipment includes a value for the library and collections as well as computers, microscopes and other ancillary equipment.

5. Investments

In accordance with accounting requirements investments are shown in the balance sheet at market value.

	2003		2002	
	M.V.	Cost	M.V.	Cost
Shell T & T	5501	1250	4956	1250
Unilever	9598	248	8971	248
M & G Charifund	61893	20238	58830	20238
Hendersons Bond	54684	58000	52751	58000
AXA Sun Life Bond	47234	56000	47056	56000
Barings Bond	23951	25000	23827	25000
	202861	160736	196391	160736

Unrealised gains arising in the year are shown in the Statement of Financial Activities.

6. Debtors

<i>Due within one year</i>	2003	2002
Trade debtors	946	2530
Recoverable Taxation	4528	4528
Prepayments and accrued income	4994	3896
	10468	10954

7. Cash at Bank and in Hand

	2003	2002
In interest bearing accounts at National Westminster Bank	13197	13232

8. Creditors: amounts falling due within one year

Trade Creditors	2103	2198
Accruals	6807	5084
	8910	7282

9. Funds

Analysis of net assets between funds

	Tangible Fixed Assets	Investments	Net Current Assets	Total
Endowment Funds:				
Hering Fund	–	15901	–	15901
Restricted Funds:				
Housing Fund	130426	78044	–	208470
Special Publications	–	54410	17814	72224
Unrestricted Funds:				
Maitland Emmet				
BENHS Research Fund	–	32978	17808	50786
General Fund	33624	21528	(3858)	51294
	164050	202861	31764	398675

The Hering Fund was endowed to make grants out of income for research in specific areas of entomology.

The Housing Fund consists of the property at Dinton Pastures and money put aside to finance its upkeep and eventual replacement. The funds were derived principally from bequests from the late Duke of Newcastle, Mr Crow and Mr Hammond.

The Special Publications Fund finances the Society’s publications other than the *British Journal of Entomology* and surpluses from such publications are credited to this fund to finance future publications.

10. Bequest & Donations

The Maitland Emmet BENHS Research Fund was established in 1996 with the intention of financing future grants for entomological research which would be less narrowly defined than those made by the Hering Fund.

11. Grants

Grants of £1,702 were paid from the Maitland Emmet BENHS Research Fund and Hering Fund. Additional grants of £701 have been made in respect of the Heathland Flies Project, half of which is recovered from English Nature and of £1,000 to support the feasibility study into the proposed macro-moth recording scheme.

THE MAITLAND EMMET BENHS RESEARCH FUND

The sum available for grants was £1700 and five applications were received. The shortage of funding this year meant that only four out of the five applications could be funded. The rejected application was technically good but, out of the five, was judged to have the lowest priority in relation to the Research Fund's requirements. Four awards, totalling £1680, were made as follows:

1. Dr R.G. Field, £500, to survey sites of the Square-spotted Clay, *Xestia rhomboidea* (Esper), in Western Scotland.
2. Dr S. Hodge, £280, to carry out a survey of shore insects occurring on the Kent coastline.
3. Jane Smith, £500, to assist with travel expenses for a visit to Germany in connection with the revision of the *Handbook for the Identification of British Sciariid Flies*.
4. Dipl.-Biol. D. Telnovs of Riga, £400, to visit UK museums in connection with the production of a checklist and key to the British Anthicidae (Coleoptera).

Ten of those people awarded grants in 2001 have reported on their work. Dr J. Chapman received a grant for work on developing a sex pheromone lure for monitoring stag beetles (*Lucanus cervus* (L.)). His work has confirmed that a sesquiterpene compound produced by male *L. cervus* is a true sex pheromone and will attract and arrest female *L. cervus* in laboratory trials. The effectiveness of this pheromone in field trials has yet to be demonstrated. Dr D. Goulson received a grant for work on the distribution of bumble bees on Salisbury Plain Training Area and has published the results of this study in the Society's *Journal* (*British Journal of Entomology and Natural History*, **16**, 95–102). Mr J. Harold, who was awarded a grant to produce a report on moths recorded in North Wales in 2001, has produced the report, a copy of which has been placed in the Society's library. Dr J. W. Ismay received a grant which enabled him to travel to museums in Berlin and Budapest to examine type material related to his revision of the British Chloropidae (Diptera). As a result his studies have been greatly advanced and a paper on the British *Chlorops* can now be finalised. Jenni Johnstone, who was awarded a grant to enable her to visit the Orkney Islands to investigate the distribution and diversity of aculeate Hymenoptera on the islands, was able to visit the Mainland, Hoy, Shapinsay and Rousay in 2002. No species new to the islands were found but new localities were discovered for several species and other known localities were confirmed. She hoped to complete the survey in 2003. Dr M. L. Luff has reported that he was able to make two visits to the Natural History Museum (NHM) using his grant. These visits have enabled him to study material of the remaining carabid taxa he needed to see in order to complete a new key to the British Carabidae. Dr M. G. Morris, received a grant for travel to the NHM in order to progress work for his RES Handbook on *The True Weevils Part II—the Ceutorhynchinae*. He reports that his grant has funded part of the expenses involved in eleven visits to the NHM to examine material not in his own collection, that the accounts of the species have been completed and the keys have been written and revised but require further testing. Mr T. Prescott, on behalf of the RSPB (Scotland) was awarded a grant to purchase a moth trap and books to assist with monitoring Lepidoptera in the Badenoch and Strathspey area. The trap and books were purchased, with matching funding from RSPB, and the trap has been used by lepidopterists visiting the area. Dr. A. J. A. Stewart was awarded a grant to conduct a survey of the BAP-listed reed beetle *Donacia aquatica* (L.). He has reported that a survey of 16 locations within the Broads was made in 2002 and these

included the last recorded site in the area. Although six species of *Donacia* and two species of *Platynus* were found, no specimens of *D. aquatica* were seen. He recommends concentrating future searches on grazing marshes rather than fens. Mr. W. G. Tremewan was awarded a grant to enable him to visit his PhD supervisor in Aberdeen to consult on work needed for the completion of his thesis on the genetics of zygaenid moths, in which he has investigated the genetics of the colour variation within and between species. We congratulate Dr Tremewan on the successful completion of this work. A report has been received from Mr D. J. Mann who received a grant in 2000 to enable him to examine specimens of various scarabaeid and meloid beetles in English museum collections. He was able to examine specimens in the collections of six museums. Two papers are in preparation, one a review of species of the *Meloe* subgenus *Eurymeloe*, and the other a review of the British species in the *Aphodius* subgenus *Meliuopterus*.

We have to report that, in spite of receiving reminders, one grant report is now overdue, that from Mr M. Kilner, whose report was due in June 2003.

I should like to thank the other members of the Research Fund panel for their careful and prompt assessments of this year's grant applications.

The Society invites applications for future awards from this fund in the fields of non-marine arthropod taxonomy, field biology and conservation related to the fauna of the British Isles. Applications should be sent to the Society's Honorary Secretary (from whom further details can be obtained) before 30 September in any year.

JOHN MUGGLETON

PROFESSOR HERING MEMORIAL FUND

The Committee agreed to support just a single application for 2004. Dr Vladimir Zlobin, Russian Academy of Sciences, St Petersburg, was awarded the sum of £500 to collect Agromyzidae and make observations on their biology. The results are intended for publication as part of a volume in the series *Fauna of Russia and adjacent countries*. The fieldwork will take place in the steppe area of the Orenburg Province in the Russian Far East.

I have received copies of two excellent works this year, the Fund having helped with the costs of publication. One of these was a global review of the Lepidoptera superfamilies Nepticuloidea and Tischerioidea by Professor Rimantas Puplėsis and Dr Arūnas Diškus, Vilnius Pedagogical University, Lithuania. The other was a revision of the Afrotropical members of the Diptera subfamily Platypephritinae by Dr. A. E. Whittington, National Museums of Scotland. These are major contributions to their respective areas of research. It is very pleasing to see the Fund associated with projects that lead to such tangible outputs. Copies of these works have been provided by the authors and have been placed in the Society's library.

Candace Low, University of California, Davis, received a Hering grant for 2003 for her study of the behavioural ecology of the leaf-mining Lepidoptera species *Autispila nyssaeefoliella* Clemens (Heliozelidae). She was reported that she discovered at least three parasitoid species that attack particular stages of the leafminer. The larva of *nyssaeefoliella* has a chitinous dorsal band that scrapes against the leafmine creating a loud sound. The dorsal band is lost at pupation, so it appears to be a larval adaptation alone. Candace Low's first experiments have shown that there is a match

between the leafminer vibrational responses and those frequencies that are predicted to indicate the presence of an attacking parasitoid.

I am delighted to report that David Henshaw has agreed to become a member of the Hering Fund Committee. We are extremely pleased to have the benefit of his expertise. He was a close associate of Dr Kenneth Spencer, so it is particularly fitting that he joins us.

I thank the other members of the Hering Committee for the work they have done on assessing applications to the Fund.

Publications part financed by the Fund

Puplesis, R. & Diškus, A. 2003. *The Nepticuloidea & Tischerioidea (Lepidoptera) – a global review, with strategic regional revisions*. 512 pp. Vilnius: Kaunas, Lutute.

Whittington, A. E. 2003. Taxonomic revision of the Afrotropical Plastotephritinae (Diptera: Platystomatidae). *Studia Dipterologica*, Suppl 12.

MALCOLM SCOBLE

LIBRARIAN'S REPORT

This past year I have been mainly occupied with compiling the electronic library database on our new computer. I have installed a copy in the members' directory so that users can search it to identify the items we hold. Several visitors to the Pelham-Clinton Building have made use of this facility. However, this project continues, as there is a large backlog of new acquisitions that has built up over the past year or so, while I have been occupied with other objectives. Indeed, dealing with this backlog of material will be my main aim for the coming year. To this end, I have had another batch of bookplates printed and will probably require more before completion of this project.

In May your Society hosted a meeting of the Entomological Club at the Pelham-Clinton Building. Those present were given a guided tour of the collections and library, and great interest was shown in our books and journals. Several unusual publications were singled out for closer examination and comment. From my point of view it was a privilege to have been involved in this event.

In my report last year, I mentioned that a proposal to prohibit journal loans had been received and that I was going to canvas users of the library regarding this. Towards the end of the year I placed a form in the library inviting members to vote for or against journal loans. So far, three users have voted for prohibition, with six against. This is not a large response and I will leave the form in the library until the end of March in the hope that more members will indicate their preference.

It is my intention to hold a postal auction of duplicate books in 2004. I will report the outcome in next year's report and, if successful, I may hold another auction of surplus material during the coming year, so watch this space!

Once again, I have had to circulate recall letters to several members who have books on loan that are now overdue, but I was pleased at the recent return of many manuscripts, field notes, entomological diaries and correspondence that had been on loan to a member for research purposes. Subject to further discussions, I intend to finalise arrangements for the inclusion of the recently affiliated British Myriapod and Isopod Group's library with our own. On the journal front, I have to report that no further progress has been made this year with the binding of back numbers, but that

this process is nearly complete now. However, I have arranged an exchange of our *Journal* for *Acta Entomologica Slovenica*.

To conclude my report I wish to express my grateful thanks to Dr John Muggleton for sorting and logging our new journals. I would also like to extend my thanks to David Young, Paul Harding, John Badmin, Katherine Hearn, Mark Telfer, Ian Ferguson, Brian Gardiner, Rimantas Puplėsis, Andrew Whittington and Arūnas Diškus for donating books and journals to the library during this period.

IAN SIMS

CURATOR'S REPORT

The main consideration in 2003 was what action should be taken to relieve pressure on space posed by surplus collections, bearing in mind that space in the collections room is very limited to accommodate any further acquisitions. There had initially been a pressing need to move cabinets away from an alarm sensor although this is no longer necessary following discussion between David Wedd and the alarm company.

There was, nevertheless, a need to establish a policy for dealing with surplus specimens, especially of Macrolepidoptera. This is essential so that cabinets can be cleared (and possibly sold), without resulting in loss of data associated with specimens, as has often happened in the past.

Macrolepidoptera surplus to requirements include the contents of the existing "Duplicates Cabinet", which now mainly contains specimens of little interest to members. A larger number of surplus Macrolepidoptera are included in the Emmet collection and to a lesser extent other collections. Altogether, approximately 10,000 specimens are involved.

The Council's subcommittee, previously set up to consider this problem, met in April. It was agreed that availability of duplicate material should be publicised to members and it was decided that the current situation could best be dealt with by including a specific occasion in the programme, when members could attend and select their wants. This would avoid impinging on Open Days and all members would be aware that this was their last chance to take up this offer. Consequently a weekend in April 2004 has been allocated for the purpose. The recent reminder sent out with the *Journal* resulted in increased interest in this and the Saturday is now fully subscribed. I am sure that there will still be plenty of material remaining on the Sunday so if anyone wishes to attend to scavenge what remains could they let me know as soon as possible.

It was decided that data on specimens to be disposed of in this way would be recorded and I am grateful to Tony Davis and David Wedd for volunteering to carry this out. This process is underway and I am assured that at least the recording of significant specimens will be completed before the deadline. This would of course be unnecessary if we knew that collections already received had been documented or the data in them supplied to recording schemes or records centres. Following the April weekend, the residue of material could then be offered to museums, universities or other bodies wanting reference collections. Also, if in future entire collections surplus to requirements are relocated in this way, only this needs to be documented and not individual specimen data.

If these solutions do not prove practicable then destruction of unwanted specimens may be the only option. This will be an ongoing issue with future acquisitions, especially of Lepidoptera but to some extent also Coleoptera of which duplicate

material is still being processed. It is recognised that it will in future be necessary to prioritise acquisitions and avoid acquiring further large Lepidoptera collections. Members considering the Society as a future recipient of their collections need to be aware of these constraints. An article on the subject of disposal of collections is planned for the *Journal*. The need to inform the Society of intentions and discuss this in advance would be stressed. So would the importance of documenting collections and taking steps to ensure that any notebooks or other documentation remains with the collection following the death of the collector.

One collection came to us in 2003, that of the late Norman Lockington of Loughton, Essex, for which I thank his widow. This comprised a general collection of all orders other than Lepidoptera and was housed in two Hill units. However, because of the need for the family to sell these it was necessary to clear them and a day was spent transferring the specimens to store boxes. I am grateful to Mrs Lockington for her hospitality during this process. This removal had the advantage of it being easier to accommodate the collection. We would have had difficulty finding space for the cabinets. On the other hand we used up our supply of surplus store boxes. On arrival at Dinton Pastures the Orthoptera were immediately passed to Roger Hawkins and the sawflies to Andrew Halstead, as they kindly volunteered to check identities. Andrew has since transferred the specimens to the main collection. In this case the collection was well documented and the relevant information came to us with it.

In September I again attended the annual meeting of collection managers. This time it was held at the Liverpool Museum and we had the opportunity to see their new facilities, with plenty of working space. Among the usual range of issues discussed, several cases of new pests afflicting various institutions were related. I learned that the identity of the *Anthrenus* species, that has a resurgence from time to time in our building, is certain. Apparently it does not need to be checked by a coleopterist, as only one species is known to be resistant to naphthalene. Hopefully we may in the future have space for a deep freeze as this is the only safe method of control.

Once again I am grateful to all those who have donated specimens to the Society in the past year and those who have assisted in other ways, including correction of misidentifications in the collections. I particularly thank Robert Norledge for donating a collection of slides of Collembola, collected at Dinton Pastures. This is an Order that had been sadly missing from our collections (and also previously unrecorded at Dinton Pastures). As many authorities no longer regard them as insects it is also an extension of our holdings into "other arthropods!". I am also indebted to John Robbins of Porlock, Somerset, who completed work on Eric Bradford's leaf mine collection during 2003, but this has yet to be returned to the Society.

PETER CHANDLER

BUILDING MANAGER'S REPORT

The year 2002 was enjoyable; 2003 has been even more so. I live near enough to Dinton Pastures to be able to visit the Pelham-Clinton Building every week, usually at least twice, so have been able to check the facilities regularly, and this year there have been remarkably few problems. The heating and air-conditioning have functioned well, while the alarm system has remained blissfully silent. One of the 'key-holders' even professed disappointment that he had never been called out in an emergency! There is a shortage of space at present, although at the 'Duplicates Weekend' next April we should be able to release a quantity of surplus specimens.

and after that, a number of insect-cabinets. The library, too, will benefit from the distribution to members of a mountain of surplus entomological journals.

My frequent visits have enabled me to get to know the management of the Country Park and to see some of the varied activities they organise, especially the outstanding work they do with the young and the disabled. I have also come to enjoy the friendliness of the Tea Cosy Café, and it is pleasing that on Open Days plenty of members regularly take advantage of the varied and inexpensive food served in pleasant surroundings. To be told recently at the café that 'you have some very nice people in your Society' was not surprising, but still good to hear.

I am steadily exploring the Park's 350 acres, with its eight lakes and two rivers, its meadows, woods and remarkable flora and fauna. A selection of the photographs I have taken now hangs in the library at the Pelham-Clinton Building and, as people seem to like them, I shall add others regularly. Dinton Pastures is a wonderful place, and we are very lucky to have our Society's headquarters in such lovely surroundings.

During the year I mentioned that if any member found weekend Open Days inconvenient, but wished to visit the Society's rooms at some other time, I should be happy to open the Building, provided I was given advance notice. I am delighted that so many people accepted the offer, which still stands.

Finally I owe thanks to John Muggleton and Peter Chandler for their unfailing helpfulness; to Andrew Halstead, who tidies up our garden area, and to the members who attend innumerable workshops, conferences and Open Days, often filling both rooms completely with a clutter of boxes, bags, overcoats, notebooks and coffee cups—yet invariably, when they leave, the place is spotless. It makes the job of Building Manager very easy, and a pleasure.

DAVID WEDD

EDITOR'S REPORT

The publication dates for the four parts of Volume 16 of the *British Journal of Entomology & Natural History* were March, June, October 2003 and January 2004, respectively. Each issue was either 64 or 72 pages in length, with the whole volume extending to a total of 272 pages. This was considerably longer than the 200 pages for Volume 15 of the previous year. A large part of the credit for this can go to Paul Waring and John Phillips who coerced reluctant field meeting leaders to submit their reports to the *Journal*, so there was a catching up exercise with reports covering the years 2000–2002. Although these totalled 40 and this sounds a large figure, many field meetings over this 3-year period still remain unreported. Field meetings are an important part of the Society's activities, taking place as they do, in all parts of Britain and leaders should aim to provide accounts of these meetings, however brief for others to enjoy. They also provide an interesting historical picture of the Society (types of mv trap, collecting equipment and dress code spring to mind). An appreciative number of reports for 2003 have been received, and these will be published in batches during the year, so there is still plenty of time to submit your field reports for 2003.

In addition to the usual reports of Society Indoor meetings, the Annual Exhibition, and Officers' reports, Volume 16 included 30 articles. There were 9 on Hymenoptera, 7 on Hemiptera, 6 on Coleoptera, 5 on Diptera, 1 on Blattoidea and 2 on Lepidoptera. There were several general articles, on the Society's expedition to Belize, the President's Address on a conservation agenda for entomologists over the next 100 years and bumblebee abundance on Salisbury Plain, together with three

full-length articles describing species new to Britain. There were also 12 book reviews and obituaries of three well-known, respected entomologists. There was a move towards reporting longer-term ecological studies, which often tend to be more insightful than the single casual observation, and these are to be encouraged. The Editor would certainly like to receive more, lengthy articles for publication, as these tend to form the basis around which individual parts of the *Journal* can be planned and sent to press.

A novel departure this year was the insertion of individual colour portraits of insects next to the relevant text in the Annual Exhibition report, using photographs specially taken by Richard Jones. Despite some teething problems with the lay-out and balancing the size of pictures on the page this was achieved reasonably successfully. The colour and clarity were about as good as could be expected with the scanner used. However it is likely that we will return to using colour-plates in 2004 as these are easier to arrange in the text at minimal cost.

Finally, I wish to thank Mike Wilson and Richard Jones for their sound advice on editorial matters. I would also like to take the opportunity of thanking all those who have given their time in assisting the *Journal* during the year, reviewing manuscripts, compiling the Annual Exhibition reports, proof-reading and all the other minor tasks that go towards making the *Journal* a success.

JOHN S. BADMIN

BOOK REVIEWS

Close-up by Chris Jones & Alex Ball (The Natural History Museum 2004) 64pp. (ISBN 0 565 09172 7) and **Wildlife Garden at the Natural History Museum** by Roy Vickery (NHM, 2004) 64pp. (ISBN 0 565 09185 9). £5.95 each.

Both pocket sized books (150 × 140 mm), are lavishly illustrated in colour and aimed mainly at capturing the eye of visitors to the Natural History Museum. Entomologists will be attracted more to the colour-enhanced scanning electron microscope photographs in *Close-up* which contains many stunning examples from the world of insects. Having had the privilege of examining gold-plated stableflies using the museum's first SEM in 1960s, the images bring back the exhilaration of seeing this ultrastructural world for the first time, casually flicking the SEM dial by × 1000 and zooming in on the minutest structures. Every entomologist should have the opportunity of using a scanning electron microscope at some stage during their lifetime as it allows you to see whole insects at high magnification in perfect focus. You can see how the aphid's stylets or the mosquito's mouthparts are arranged for probing and equally how hairy and waxy some plant surfaces are that larvae have to hold onto or eat. You really do enter the insect world.

The second book by Roy Vickery charts the successful building of an educational wildlife garden in the museum's grounds. The garden contains five major habitats found in southern England; a hay meadow, ponds and wetland, woodlands including coppice, hedgerow, and chalk grassland! Despite its small size, the garden now boasts a list of more than 350 species of beetle, 462 species of Lepidoptera and hundreds of other invertebrate species, though many are tourists just like the human visitors pouring through the museum's front door. Both books are well-written and intended to encourage the reader to investigate wildlife in more detail: we cannot ask for more.

JOHN S. BADMIN

THE 2003 PRESIDENTIAL ADDRESS – PART 1 – REPORT

BASIL HARLEY

Martins, Great Horkesley, Colchester, Essex CO6 4AH

Two years ago, when I was invited to stand for election as a Vice-President of the British Entomological and Natural History Society, I knew that this would lead to my becoming President in the year 2003/2004, a prospect which was somewhat daunting. Although I have been a member of the Society since 1975, I had previously played no part in its management, and simply took advantage, as an ordinary member, of the splendid efforts put in by the various officers who ensured its smooth running. I did attend some meetings, both indoor and in the field, but pressure of work made this more difficult in recent years. It was therefore with great diffidence and some reluctance that I accepted the challenge and was duly elected on the almost customary one-party slate. My year as President seemed quite a long way off. However, it arrived with surprising speed and during the past twelve months I have come to admire even more the smooth, efficient and friendly way in which the various officers perform their duties – the President being no more than at best a figurehead and hopefully not a liability and encumbrance.

I should like to pay tribute to all the officers of the Society who have all handled the work they have voluntarily undertaken, often at considerable personal sacrifice. A few, without wishing to single out members of Council invidiously, I shall nevertheless mention by name.

Without doubt my task would not have been as easy as it has seemed had it not been for the efficiency of the Honorary Secretary, John Muggleton – the perfect adjutant, ever ready at one's elbow with a quiet hint should something have been forgotten and with immaculately presented procedural instructions, but never obtrusive despite his considerable presence. I do thank him warmly for the help he has given me. Next I should mention our Treasurer, Tony Pickles, who has guided the Society over various hurdles in the past and who has ensured that our finances remain stable. His wise counsel is always available and his advice is always sought whenever extraordinary expenses are being contemplated. After thirteen years in office he deserves our heartfelt thanks. I would also mention Peter Chandler, our Curator for the past eighteen years, who ensures that our collections are well cared for and at the same time easily available for study and research. The fourth I would mention by name is Paul Waring, who, despite wearing many hats outside the Society, somehow contrives not only to organize and attend many of the field meetings and make numerous contributions to the literature in the journals, but has also volunteered to trawl through and analyse past field-meeting records with a view to obtaining some perspective of what is happening to our Lepidoptera. He is a human dynamo and we must pray that he will not break down. To all other officers and members of the Council whom I have not mentioned specifically I would express my thanks for the work they have done during the past year, organizing Open Days and Workshops at Dinton Pastures, representing the Society at a variety of meetings or helping to organize other events.

It is now my sad duty to talk about nine members whose deaths have been reported to us during the past year, two of whom died more than a year ago; one death we learnt of only today.

Dr John Bradley, our esteemed honorary member, died on 4 January this year at the age of 83. He was a former member of the staff at the BM(NH), now the Natural History Museum, in South Kensington, which he joined in 1938 as a preparator in the Department of Entomology. War service intervened and he served in campaigns

in North Africa, Italy and Austria before returning to entomological work at the Museum, in which he undertook the curation of the microlepidoptera collection of Edward Meyrick consisting of over 100,000 specimens, gathered from many parts of the world, over 14,000 of which were unidentified types. The result of this work, with the co-operation of an American colleague, Jack Gates Clarke, who was seconded from the United States National Museum, was an eight-volume catalogue published by the British Museum. In 1964, John transferred to the Identification Service of the Commonwealth Institute of Entomology, now CABI, but he remained at work in the Lepidoptera section of the Museum. In the same year, he joined the BENHS. With Dr W. G. Tremewan, as co-author and Arthur Smith as artist, he worked on the two volumes of *British Tortricoid Moths*, published by the Ray Society in 1973 and 1979. These were greatly welcomed by lepidopterists and also horticulturalists because there was no recent work available on these species, many of which were considered of economic importance. John Bradley, in association with D. S. Fletcher, also produced the *Recorder's Log Book and Label List of British Butterflies and Moths* which was a complete list of the British fauna. The Log Book numbers accorded to the species were widely used not only for recording but also in the literature and have been continuously updated by the senior author (Steve Fletcher having died a year or two ago). The most recent version was published in 2000 and marked 50 years of John's entomological literary contributions. John also compiled and published, with technical help from his two sons, David and Michael, the *Checklist of Lepidoptera recorded from the British Isles*, the second edition of which was issued in 2000. John was also associated in an editorial capacity with the *Entomologist's Gazette* and the *Entomologist's Record* and kept in contact with continental authors. He never lost his enthusiasm for British Lepidoptera and was very excited when I told him last year of a pug moth new to Britain, *Eupithecia massiliata* Millière & Daudoin. He said it was about time for a new one to be found! I treasure a setting bristle made from a whisker taken from a dead tiger in Belle Vue Zoo, Manchester, and given me by John! It is very effective. John was a kindly and congenial though reserved man with a good sense of humour. He will be much missed by those who knew him. He has bequeathed books from his library to the Society.

Kenneth Cooper of Hucknall, Nottinghamshire died on 31 July 2001 but the Society has only recently become aware of his death. He was born in 1925 and so was just old enough to serve in the war. He trained as a troop-carrying glider pilot but did not go into action as peace came. In his professional life he worked in the textile industry, serving in the company founded by his father until he sold his interests in it when his son emigrated to Australia. His great enthusiasms were Lepidoptera, particularly micros, photography and sailing. He had a zest for life and has been greatly missed by the Derbyshire Entomological Society which he joined in 1986, two years before he joined the BENHS.

Peter Standing died in April 2002 at the early age of 55. He served in the Royal Air Force, reaching the rank of Squadron-Leader. On his retirement from the RAF after the Falklands War he joined Virgin Airlines as a senior transatlantic pilot. He joined the society in 1989, registering his interest as Lepidoptera. His fascination with butterflies led him to rear endangered British species for the purpose of controlled releases into the wild. An extremely charming, popular and friendly man and a gifted pianist, his premature death came as a great shock to those who knew him.

David Warner, whose death on 21 February 2003 the Society did not learn about until the late spring, joined the Society in 1998. He lived and worked in and around Essex and was a stalwart member of the Colchester Natural History Society. He was much involved in the design and production of the *Butterflies of Colchester and North*

East Essex, published at the end of 2002. His interests were breeding butterflies and re-introducing them into areas from which they had become locally extinct. He was a quiet man with a dry sense of humour who was good with beginners.

Maurice Waterhouse, who died in April 2003 at the relatively early age of 64, lived life to the full. He was in his career a semi-professional footballer, engineer, chicken farmer and warden of an RSPB nature reserve. In the latter job, which he held from 1969 to 2000 at Coombe Valley, Staffordshire, he inspired many with his great enthusiasm for nature conservation – a passion which he also carried over into reserves in other parts of Europe, advising on conservation management. He was knowledgeable on Coleoptera, Hymenoptera and Diptera and donated many specimens to the Potteries Museum and Art Gallery in Stoke-on-Trent. He did not join our Society until 2000, so his premature death deprived us of the benefit of what others have spoken of as inspirational teaching in the field of conservation.

David Porter of Hailsham, East Sussex, died on 21 July 2003 having joined the Society in 1987. He had been a schoolmaster at secondary schools in Stevenage and Hailsham, retiring early as head of biology in 1993. His interests were Hemiptera, Diptera, aculeate Hymenoptera and especially Coleoptera. His immaculately mounted collection comprising several thousand specimens was donated to the Booth Museum, Brighton.

Dr David Phillips of Livingstone, West Lothian, who joined us only in 2001, died in December 2003. His interests were Hymenoptera and Diptera and he was also a member of the Dipterists' Forum.

Ronald Parfitt, a special life member, died in January this year after 62 years' membership of the Society, having joined in 1942 with Lepidoptera his declared interest. During World War II he worked at the Royal Aircraft Establishment, Farnborough. Eric Classey recalls his use of sugaring during this time when lamps were not allowed. He did, however, have a head-lamp which he could direct on to tree-trunks and sugar-patches without raising an alarm. He was excellent company, having a good sense of humour. Latterly he moved to live in Cornwall where, although submitting occasional records, he was not actively involved with local lepidopterists.

Mrs Jackie Ryrie joined the Society in 1995 and died in January 2004. She lived in Wick, Caithness, and her main interest was 'peatland invertebrates'. She was one of the team who, in the 1980s, discovered a species of beetle new to Britain, the dytiscid *Oreodytes alpinus* (Paykull). This is included in Peter Hodge and Richard Jones's *New British Beetles*, 1995.

We have already stood in memory of these members at this and previous meetings so I shall not ask you to do so again.

The year has been relatively uneventful and you will have heard reports for 2003 from the various officers. There continues to be debate in certain quarters about the undesirability of collecting rare species. In the course of looking through accounts of past meetings, I came across one in March 1897 when a discussion, opened by C. G. Barrett, took place on 'the protection of insects in danger of extermination'. T. W. Hall, who had been President in 1895, suggested that, as an extreme measure, 'a black list of greedy collectors should be formed and even published in the magazines'. J. W. Tutt, admitting that he himself was essentially a collector, nevertheless condemned excessive target collecting but wished that collectors would 'collect with their head as well as with their hands'. That, I think, remains the position of this Society. Responsible collecting within the law should be permitted and, in some circumstances, even encouraged.

I must not fail to mention that one of our special life members, Christine Foord who, with her late husband Ron, built up a great collection of 35 mm slides, mainly

of natural history subjects, has made arrangements to leave it to the Society after her death. The slides, which number about 45,000, have been seen by Andrew Halstead who confirmed that the Society would certainly benefit from such a bequest. We are most grateful to Mrs Foord for her generous and thoughtful action.

If I have omitted to thank or praise anybody, or inadvertently failed to mention any event I should have done, I would beg your indulgence. I would stress what a great honour and privilege it has been to have followed in the footsteps of the many famous and distinguished entomologists who have presided over the Society during the past 130 years. I hope that I may now move quickly to the final stage of my presidency, my main address, especially bearing in mind the constraints of time.

SHORT COMMUNICATIONS

***Empicoris baernsprungi* (Dohrn) (Hem: Reduviidae), *Agrilus biguttatus* F. (Col: Buprestidae) and *Rhinocyllus conicus* Frölich (Col:Curculionidae) in Gloucestershire.**— On a brief visit to Toddington Manor (SP0333) on 12 June 2003, I found a rich invertebrate fauna associated with old parkland trees. On one large oak I beat a male *Empicoris baernsprungi* from the shattered stump of a broken off lower bough. This appears to be a much favoured microhabitat for this delicate bug.

Two other large, moribund oaks were heavily infested with *Agrilus biguttatus*, with the characteristic emergence holes abundant. Both appear to be new county records (Keith Alexander, *pers. comm.*).

Other important captures included the RDB1 click beetle *Anupedus rufipennis* (Stephens)(Elateridae) on hogweed. Another scarce species which is well established in the area was the spider *Nigua walckenaeri* (Roewer) (Araneae: Dictynidae) which is otherwise largely restricted to the Home counties.

On the 5 November 2003, I visited Cattybrook Brick Pit, Almondsbury (ST5983) where I found 11 adult *Rhinocyllus conicus* wintering under the lifting bark of a small, recently dead oak tree growing on the open revegetating slopes of this large quarry. These appear to be the first records of this beetle in Gloucestershire. — JONTY DENTON, Kingsmead, Wield Road, Medstead, Hampshire, GU34 5NJ. JontyDenton@aol.com.

***Plectrocnemia geniculata* McLachlan (Trichoptera: Polycentropodidae) in Surrey.**— On 18 August 2003, I collected a single dead male caddis from a spider's web close to a stream crossing Strawberry Bottom, on Pirbright Ranges (SU9259). Using Macan (1973) it keyed out to *Plectrocnemia geniculata*. According to Wallace (1991), this species is common throughout most of Britain but he had no records for south-east England, adding prophetically that "he would be surprised if it was not there somewhere!" The caddis was taken close to a swift flowing stream shaded by *Phragmites*, surrounded by the most extensive areas of mire habitat in Surrey. I have since learned that there is a single male of this species in the NHM collection, collected at Ightham, Kent by D. E. Kimmins on 28 April 1963 (P. C. Barnard, *pers. comm.*). This record was not included in Wallace's review.—JONTY DENTON, Kingsmead, Wield Road, Medstead, Hampshire GU34 5NJ. E-mail: JontyDenton@aol.com.

REFERENCES

- Macan, T. T. 1973. *A Key to the Adults of the British Trichoptera*. Scientific Publications of the Freshwater Biological Association, No. 43.
Wallace, I. D. 1991. *A Review of the Trichoptera of Great Britain*. NCC, Peterborough.

THE 2003 PRESIDENTIAL ADDRESS – PART 2

LOVELL REEVE (1814–1865) AND HIS COMPANY

BASIL HARLEY

Martins, Great Horkesley, Colchester, Essex CO6 4AH

In the proceedings of the South London Entomological Society for 1880, Mr A. Ficklin, the President, in his published Address, remarked that the Society should not confine its attention to entomology and that its scope be enlarged to include other branches of natural history, if necessary changing its name. The proposal was clearly given a lot of thought since it was not adopted until five years later, in 1885 under the presidency of Richard South, when the Society changed its name to the South London Entomological and Natural History Society and restated its aims. Its object henceforward would be ‘the diffusion of biological science’ generally. It is in that spirit that the Society has continued to the present, although entomological activities remain overwhelmingly predominant. In my own address this evening, I too propose to speak on a broader aspect of natural history which, while not principally entomological, features entomology in it, at times prominently. I have entitled it ‘Lovell Reeve (1814–1865), naturalist and publisher; and the publishing company he founded’. Two of our Society’s first patrons, H. T. Stainton and E. C. Rye, were among his firm’s earliest entomological authors, and, as you will learn in the course of this talk, works by two other of our revered forerunners figured large in the list of its publications at the end of the nineteenth century.

Preparation of my address has occupied a great deal more of my time than I had originally anticipated because Reeve’s range of activities was considerable though this is not widely known. Those who have heard of or written about him tend to think of him only in relation to their own particular areas of interest. His name and that of the company he founded may well be familiar to botanists and gardeners, or to conchologists, or to entomologists, or even to those interested in the techniques of natural history printing or the development of photographically illustrated books, but none would seem to have appreciated the full extent of his interests and of his personal involvement in all of these and linked them together. I have consequently been obliged to consult the libraries of very many institutions holding archival and other relevant material. Even so, information about him is sparse and incomplete.

I have come to agree with C. G. Barrett, the lepidopterist, who remarked in 1892 that ‘there is a duty always imposed upon the President of a Society such as this which, if he were a particularly modest man would almost make him pause before accepting the office, were it not for the wise and prudent arrangement by which the duty is deferred until the term of office has expired,’ adding, by way of clarification, if it were needed: ‘It is the duty of delivering a Presidential Address!’ I am thankful indeed that this is my last presidential duty since it has been a demanding task, but I can nevertheless say without hesitation that piecing together facts, however sketchy, about the subject of my talk has given me a lot of pleasure.

Lovell Augustus Reeve was born on 19 April 1814 to Fanny (née Lovell), wife of Thomas Reeve of 15 and 16 Ludgate Hill, a well-to-do draper and mercer who was representative of the old school of City traders. The father would seem to have belonged to an earlier age since he has been described as wearing silver knee-buckles, and having his powdered hair dressed in a pigtail, as would have been customary among men of his station in the eighteenth century. In early life, Thomas Reeve had

shared lodgings with Robert Waithman, a close friend and fellow draper. They married sisters whose surname Reeve bestowed on his son. For fifteen years Thomas Reeve was on the Common Council of the City of London, but his ambition never matched that of his brother-in-law, Robert Waithman. The latter was extremely active politically, becoming successively Alderman in 1818, Sheriff in 1820, and Lord Mayor of London in 1823, and was also elected MP for the City of London which he represented in four parliaments between 1818 and 1833, though not continuously. From this background it can be seen that young Reeve came from a good bourgeois family and had valuable connections.

Lovell Reeve was a gifted and intelligent boy. He attended school at Stockwell where he had already received an excellent classical education by the age of thirteen, obtaining in no more than four years eight prizes for his proficiency in Greek and Latin. He might have been expected to go on to a public school or university to further an academic career in which he would almost certainly have achieved great distinction. However, this was not to be since he was removed from school in 1827 and bound apprentice for seven years to a grocer and tea dealer, a Mr Francis Graham, whose shop was at nearby 37 Ludgate Hill, where he was to learn the business of dealing in spices, tea, sugar, molasses and other commodities. This seems an unlikely and most unpromising beginning for a future naturalist and publisher. However, in a fragment of autobiography he recalled how, one day, fortuitously, a sailor sauntered into the shop with a little bundle of cowrie shells. 'Were these shells ever alive?', he asked the sailor, 'Alive!' said he, 'Believe you, my boy, every one on them', and he opened out his double-knotted blue calico handkerchief on to the counter (Melvill, 1901). The sight of the brilliantly enamelled shells made a deep impression on him and his purchase of them for a few pence was the starting point of his passion for conchology, which was to develop into a deep interest in natural history generally.

Reeve was fortunate to have an apprentice friend, by name of George Walker, who was a compositor with the firm of Spottiswoode, a well-known printing company even in those days. This friend was already a collector of shells and knowledgeable about natural history. Together, after shutting up shop, they would spend the evening poring over his friend's collection at his lodgings in Shoe Lane and talking about the origins and life histories of the molluscs he had obtained from sailors and shell dealers who frequented the vicinity of the nearby London Docks. Thus encouraged, Lovell Reeve became an avid collector himself. At this date, Ludgate Hill was probably the greatest thoroughfare in London and it was recorded that through it there passed in twelve hours 8752 vehicles, 13,025 horses and 105,352 persons which was certainly good for trade (Thornbury, n.d.). Young Lovell Reeve lived in an attic room in Ludgate Hill overlooking the courtyard of the famous 'Belle Sauvage' Inn. Here, in earlier times, actors had performed and fencing had been taught. Now, from his latticed window Reeve could see not plays or fights but, instead, the regular arrival of mail coaches into the yard, the guards sounding their horns on arrival and departure. The coachmen and guards were frequent customers at the shop. In the late evening, on returning home, he would divide his time between studying his conchological treasures, which he kept in a two-foot square box, and watching the bustling activity in the yard. Years later, Reeve commemorated his friend by naming a particularly beautiful mollusc '*Cypraea Walkeri*' Reeve.

Whilst serving his apprenticeship, Reeve enthusiastically pursued his study of shells and the life histories of the animals which inhabited them. He was more than just a shell collector, and showed considerable interest in the broader science of malacology. In the early 1830s, he made the acquaintance of Dr John Edward Gray of the British Museum, through whom he learned of the newly founded British

Association for the Advancement of Science, which in 1833 had as its President the celebrated geologist, Professor Adam Sedgwick, FRS. In that year, Lovell Reeve was granted a week's holiday to attend the third meeting of the Association in Cambridge. Inspired by its President and displaying an exceptional thirst for knowledge, he made many valuable contacts which were to be most useful to him in the years ahead. Though not yet twenty years old, he was made leader of the conchologists exploring the Fens between Cambridge and Ely which included Wicken, a happy hunting ground for zoologists and botanists but which even then were under threat of destruction by drainage. Swallowtails and large copper butterflies were still to be found in the fens at that date, as well as rare moths, plants and molluscs, many of which have since become extinct.

On completion of his apprenticeship in 1834, Reeve made a journey to Paris, armed with letters of introduction to the principal naturalists there, and was warmly received at the Museum of the Jardin des Plantes by M. Henri-Marie de Blainville, who was the successor to M. Georges Cuvier, the distinguished French naturalist. At a meeting of the French Academy of Sciences, he delivered his first scientific paper on the classification of the Mollusca. By the time he returned to London, his mind was fully made up that he should follow a career other than that for which he had trained and for which he was clearly intellectually unsuited. He immediately set to work on his first major publication – *Conchologia Systematica* – an ambitious quarto work in two volumes, containing 301 coloured plates, which were published by Longman in 1840 and 1841 respectively. The cost of this was far greater than he could hope to recover from sales, except in the very long term. He was obliged to pay for it from his share of the estate on Ludgate Hill, left to him on his father's death a year or so previously.

In 1841, by good fortune, Lovell Reeve saw an advertisement in *The Times* of a sale of shells in Rotterdam. As a collector himself, he decided to attend it and was delighted to find that what was displayed, spread out on large trays in a stable yard, were highly sought-after specimens that were worth many times more than he was required to pay for them. They were chiefly of the rarest and most valuable kinds and had been collected in the Moluccan Islands in what came to be known as the Dutch East Indies, now Indonesia, by the Governor-General, van Ryder, and then sent back to Holland where their value was not appreciated by those handling the sale. Reeve purchased the lot. He brought them back with him to England, and in 1842, with profits earned from the transaction and, it was said, with some assistance from friends, he opened a shop for the sale of natural history specimens at 8 King William Street (now William IV Street) off the Strand.

He also acquired a Stanhope hand-printing press, cases of type, a lithographic press and the necessary printing plates, lithographic stones and other equipment for the production of the books on conchology that he was already planning to publish himself. His enthusiasm was matched by his energy and his knowledge, which was exceptional in such a young man (Plate 1, p. 80), but his experience in trade had no doubt also made him shrewd as well as prepared to take a calculated risk. This entrepreneurial aspect of his character was evident throughout his all-too-short career. Nothing is known of the staff he employed and there must have been several, but it is clear the he was always the driving force in any partnership. His first publications, mainly on conchology but also on botanical exploration, with important works by Dr J. D. Hooker, the brilliant son of the great Sir William Joseph Hooker of Kew, were published between 1843 and 1845 and bore the imprint Reeve, Brothers, King William Street. Nothing seems to be known of this brother, whose name no longer appeared as sole partner after 1845 though from 1847 to 1849



PLATE 1. Portrait of Lovell Reeve in 1849 at the age of 35. Lithograph by T. H. Maguire.

a third partner's name was included in a new imprint, Reeve, Benham and Reeve. By 1850, however, the brother having possibly died, this had become Reeve & Benham, still of King William Street. In 1851, the partnership moved to 5 Henrietta Street where, after 1852, the name Benham too ceased to be mentioned. That lease was later extended to include No. 6 as well as No. 5, and the firm continued to operate from there long after Lovell Reeve's own death in 1865 and

until after the First World War, following the expiry of its lease of the property from the Duke of Bedford's Estate.

Back in 1840, one of the greatest collections of natural history specimens made in the Far East had been brought to England by the naturalist and traveller Hugh Cuming, who later became one of Reeve's closest friends and who left him a bequest on his death though sadly Reeve did not outlive him long enough to enjoy it. Cuming had been abroad for four and a half years and had accumulated 147 large cases of specimens, 90 of which he arranged to be transported in three large wagons to his home in Gower Street. In addition to over 1200 birds, thousands of insects, crabs and reptiles, and some 3500 species of plants, including ferns, of which he brought back 130,000 dried specimens, there were over 3000 species of shells, many new to science. These were to form the basis of Lovell Reeve's great publication, *Conchologia Iconica; or, illustrations of the shells of molluscos animals* which he began publishing in monthly parts in January 1843 from his establishment in King William Street (see Plate 3, p. 89). The illustrations are considered to be 'the most accurate and among the most beautiful of all those published prior to the widespread use of photographic reproductions' (Dance, 1966). They were beautifully drawn on stone by George Brettingham Sowerby II from his own pencil sketches, and printed by the lithographic process by the lithographer Vincent Brooks and then coloured by hand.

Publication of *Conchologia Iconica* continued at the same rate for the next twenty-five years, its completion being finally achieved in 1878 with the twentieth volume. It was a mammoth work, containing 281 monographs of 289 genera, illustrated on 2727 lithographic plates, all but five hand-coloured. Some 27,000 molluscs were depicted, over 2000 of which were described new to science by Reeve himself, including *Paralaouta caputspinulae* (Reeve, 1852) which was added to the British list as an adventive from the Mediterranean as recently as 1985. Such was the quality of these plates, all drawn by Sowerby 'expressly from nature of the natural size', that they came to be regarded as an illustrated guide to the major collections from which they were obtained, notably those of Hugh Cuming and John Dennison, a wealthy mid-nineteenth century collector. Any shell from these collections from which an illustration had been made for that work would always stimulate competition in the sale room. Individual parts, published as monographs, were initially sold at six shillings (30p) plain and ten shillings (50p) coloured. By 1 April 1843, 27 parts had been published. Reeve's plan was to publish two genera together, each as a monograph. A title and index was to be issued on completion of each family and the entire work bound as seven volumes. In the event, the number of additional shells that needed to be described extended the original estimate of colour figures from about 1700 by over 1000 as the work expanded to twenty volumes.

The great shell-collecting craze, which dated from the early eighteenth century, continued to flourish until the end of the nineteenth. Consequently, the timing of Reeve's venture was for him most fortunate. The work, which has come to be known familiarly as '*Conch.* [pronounced 'Conk'] *Icon.*', was eagerly bought by both professional scientific and private hobby collectors and has itself acquired a status among great natural history books bordering on iconographic. Being published in monthly parts at reasonably affordable prices, it sold well, though many buyers might not have been able to sustain the monthly outlay for years on end or even retain their enthusiasm for it. The title page and preliminary text for the final volume contained a preface written by Lovell Reeve's widow, Martha, in which she proudly stated:

'On the completion of this great work, a few words appear due to the Subscribers. In the British Museum, England possesses a collection of shells—

including that of the late Mr Hugh Cuming, acquired by purchase in 1865 – which for richness and completeness rivals all other collections in the world put together.

‘The “Conchologia Iconica” was commenced by my late husband, Mr Lovell Reeve, in 1843, as the exponent of these and other collections. At the time of his decease, in 1865, fifteen volumes of the work had been completed. Although these, containing as they do most of the important Genera, would have been no inconsiderable contribution to Conchological science, still as many Genera remained unrepresented, it was thought desirable to continue the work to a point at which, for all practical purposes, it might be pronounced complete.

‘The literary conduct of the work was therefore entrusted to Mr G. B. Sowerby, F.L.S., who had hitherto supplied the artistic portion.

‘His Royal Highness the late Prince Consort was amongst the earliest subscribers, and his subscription (for two copies) has been generously continued by Her Majesty the Queen.

‘Many of the earlier subscribers have not lived to see the completion of the work, in the commencement of which they took a lively interest, but their subscriptions have been continued by members of the family, or have been replaced by other individuals.

‘To Her Most Gracious Majesty the Queen, and to the rest of the Subscribers, I beg to tender my most grateful acknowledgements, for the continued support which has enabled me to bring the work to what I trust will be deemed a satisfactory conclusion.’

MARTHA REEVE

The Cottage, Gilston, near Harlow
March 29, 1878

In recent years, copies of this monumental work have fetched very high prices in the saleroom. In 1992, Tony Swann, a director of Wheldon & Wesley, natural history booksellers, reported that a short time previously they had valued a set of volumes at £20,000. He added that he knew of another set catalogued by a bookdealer in 1988 at £48,000, though he doubted it had sold for that price, having been sold on to another dealer. It remains one of the great, finely illustrated scientific works of the nineteenth century and today is almost beyond price.

I have dwelt on this extraordinary conchological work since, through the quality and importance of its text and illustrations, meticulously prepared for publication by Reeve when he was not yet thirty years old and so carefully and tastefully executed in line with his original plan, Reeve was able to bring regular revenue into his company and to build up sufficient capital such as would enable him to expand into other branches of natural history and science – botany, bryology, phycology, arachnology, entomology, ornithology and mammalia, as well as horticulture, geology, mineralogy, exploration and photography.

In 1844, the ambitious young Reeve began negotiating to take over the *Botanical Magazine* from Samuel Curtis, which Samuel’s father, William Curtis had founded in 1787 (Plate 2). He had already published one work that year – under the imprint Reeve Brothers of King William Street – the first of three volumes by Dr Joseph Dalton Hooker in his series *Botany of the Antarctic Voyage of Her Majesty’s Ships Erebus and Terror (1839–43)*. It contained 200 colour plates. In the same year he took over and published Sir William Hooker’s *London Journal of Botany* under the revised imprint, Reeve, Benham and Reeve. In 1845 he finally obtained control of

CURTIS'S BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew,

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUIABLE DESCRIPTIONS;

AND

A SUPPLEMENT OF BOTANICAL AND HORTICULTURAL INFORMATION;

BY

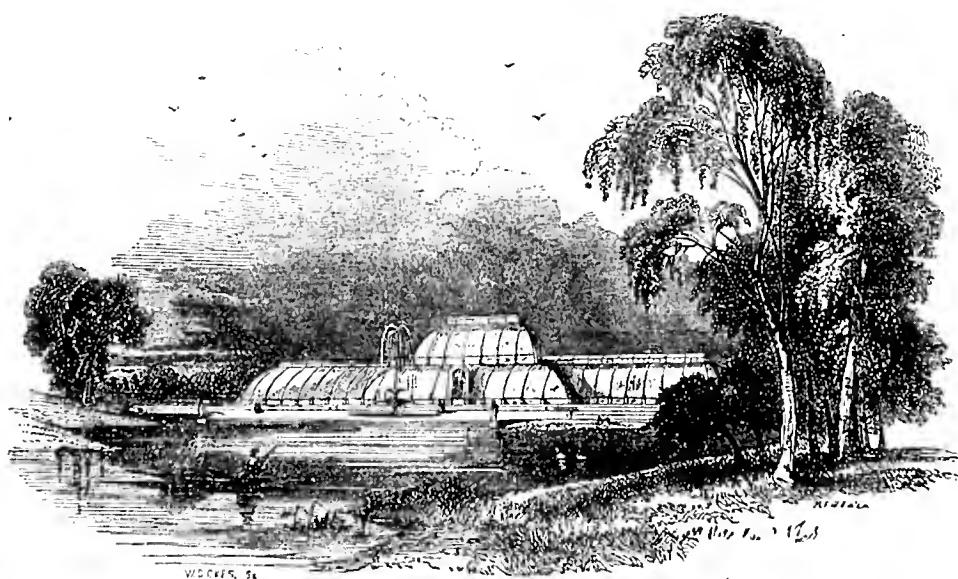
SIR WILLIAM JACKSON HOOKER, K.H., D.C.L., OXON.

L.L.D. F.R.S., and L.S., Vice-President of the Linnean Society, and Director of the Royal Gardens of Kew.

VOL. I.

OF THE THIRD SERIES;

(Or Vol. LXXI. of the whole Work.)



"Nature and Art t'adorn the page combine
And flowers exotic grace our northern clime."

LONDON:

REEVE, BROTHERS, KING WILLIAM STREET, STRAND:

1845.

PLATE 2. The cover of the renamed *Curtis's Botanical Magazine*, the first under Lovell Reeve's management. Published in July 1845, it shows the spectacular newly opened Great Palm House at Kew, designed by Decimus Burton and Richard Turner.

what was then renamed *Curtis's Botanical Magazine*, and in July published the first issue under his management. The price per monthly issue was 3s.6d (17½p) coloured and 2s.6d (12½p) plain. These new publications brought him into close and regular contact with the Hookers of Kew and other leading botanists of the day. The colour plates, often with one large plate folded to accommodate images of large specimens, which had previously been hand-coloured line-engravings, were thenceforward produced as hand-coloured lithographs, a medium which gave a far more delicate result. The botanical artist W. H. Fitch, whom Sir William Hooker employed at Kew, was an immediate convert to the merits of lithographic printing.

In 1849, a financial crisis loomed for the *Botanical Magazine* due to falling circulation and Reeve proposed to reduce the number of plates in order to cut costs. He had problems with Sir William Hooker who objected strongly to this plan and who at the same time wanted a higher fee to be paid for his own text and also for his artist, Fitch, but the economics of the magazine, which was also suffering from severe competition, made economies essential. Reeve could not afford to sustain losses at the same time as he was expanding his list of other titles, though he benefited from the *Botanical Magazine's* reputation which had grown markedly under Sir William Hooker's editorship and his own proprietorship.

The flow of publications from the King William Street premises increased steadily with the appearance in 1845 and 1846 of further works on molluscs by Agnes Catlow and Lovell Reeve himself; and on botany and related subjects under the authorship amongst others of J. D. Hooker, W. H. Harvey and C. D. Badham. Of particular beauty was the latter's well-illustrated book, *A Treatise on the esculent* [i.e. edible] *Funguses of England*, on which a reviewer at the time commented that the collector could scarcely make a mistake! One would hope not. Harvey's *Phycologia Britannica; or, a history of British Seaweeds*, published in parts between 1849 and 1851 and bound in volumes with 360 colour plates, each species being given a plate to itself, was to become a standard work.

The nineteenth century was an age in which Britain's Empire grew to its greatest extent. Its naturalists travelled widely to explore and record the plants and animals within its territories, often on board Her Majesty's Discovery Ships which were sailing to every corner of the globe. Although these expeditions do not fall strictly into the category of British natural history study, it is interesting to note the extent of these journeys which provided such valuable material for Lovell Reeve's company's publications. For example, the account of HMS *Samarang's* exploration of the Southern Oceans, was published in 1880, with Reeve himself one of the contributors on the molluscs collected. Other contributors included Sir Richard Owen, the first director of the Natural History Museum at South Kensington; Sir John Richardson, the ichthyologist and Arctic explorer; J. E. Gray, Reeve's old acquaintance and mentor from the 1830s when he was still an apprentice; and Adam White, zoologist from the British Museum. These contacts undoubtedly enhanced Reeve's standing considerably, enabling him to communicate and negotiate with his authors on a more-or-less equal footing. Reeve was undoubtedly a confident, determined and strong-willed man but he seemed to get on well with his authors, frequently older than himself, and retain their respect. Nevertheless, it is hard to conceive how a new publishing company, run by a young man without any formal scientific qualification, could have achieved so much in its first ten or eleven years. A contemporary lithograph, drawn when he was only 35, shows him to be a sensitive and handsome man of charm and dignity.

Other early works in the genre of travel included a remarkable book on *Travels in the Interior of Brazil* by George Gardner, the botanical explorer, published in 1846,

W. J. Hooker's monograph *Rhododendrons of Sikkim Himalaya*, based on his son Joseph's exploration with his drawings of new species, published in 1849, and *Botanical journey to the Western Himalayas and Tibet* of 1852 by Dr Thomas Thompson. The account of his *Travels on the Amazon and Rio Negro* by Alfred Russel Wallace followed in 1853, five years before Wallace sent Charles Darwin his manuscript containing his own theories of evolution which were based on these South American journeys.

In 1850, for the European traveller, he published *The Tourist's Flora* by Joseph Woods, 'a descriptive catalogue of the flowering plants and ferns of the British Islands, France, Germany, Switzerland, Italy and the Italian Islands'. Over 500 pages long, it contained no plates but included a very comprehensive list of species, keyed out under genera to which there is a detailed introduction.

Reeve's own reputation was growing fast. The output of his small publishing company in its first ten years of existence, working first from King William Street and then from Henrietta Street, had been ambitious and considerable. Reeve & Co., as by then it was known, continued to publish new books, liberally illustrated with hand-coloured lithographs of high quality, while managing to maintain an increasing flow of the journals and part-works Reeve had already begun. 'The letterpress composing, printing, etc., and the litho preparing, transferring, printing, etc., we do on the premises', he had told Sir William Jardine, the Edinburgh publisher, in 1845 when there was still production capacity to fill. He added that, 'for original drawings we employ different artists according to the nature of the subject... For the colouring we employ different hands for each branch.' Most of the work produced and published by Lovell Reeve included colour plates which were of good quality. Being executed on the premises, supervision could be strictly maintained, with the hand-colourists carefully matching the artist's pattern plates (Plate 4, p. 90) – a procedure that the firm followed until well after the end of the nineteenth century, though in 1854 the firm's lithographic press was sold to Vincent Brooks who became the principal supplier. All letterpress printing was contracted out to one or other of the many local printing houses so that the company could concentrate on publishing.

Reeve had been elected an associate of the Linnean Society in 1842, his nomination having been supported by John Gould, the ornithologist and publisher; George Brettingham Sowerby I, the conchologist son of James Sowerby, famous botanical artist, and father of Reeve's artist G. B. Sowerby II; and his conchological collector friend, the traveller Hugh Cuming. Associate members paid reduced subscriptions and had no say in the conduct of the Society's affairs. In 1846 he was nominated for election to the Fellowship of the Linnean Society. The list of those who then supported him read like a roll of honour and included, among others, the botanist Robert Brown, Sir Richard Owen, Sir William Hooker, Professor Thomas Bell, the distinguished zoologist (who bought Gilbert White's old home, The Wakes, at Selborne), and William Yarrell, the prolific zoological author. Many of Reeve's distinguished authors were Fellows of the Linnean Society and quite a few were also Fellows of Britain's oldest and most prestigious body of scientists, the Royal Society. Reeve obviously entertained hopes that he would himself be elected FRS. Charles Darwin, a Fellow since 1839, wrote to him encouragingly on 14 March 1849: 'I have heard an account with what uncommon zeal you have pursued natural history and on this ground I shall be happy to append my signature to your paper and to wish you all success. I hope for the honour of that Society your being in the publishing trade cannot be the smallest objection to you.' However, he was not elected – a reflection, perhaps, of the snobbery of the time rather than his ineligibility. In 1853, he was however elected Fellow of another distinguished scientific body, the Geological Society.

Reeve determined to produce series of books that would appeal on a popular level to the amateur and student. He was not alone in this. Several publishers came into the market with varying degrees of success, depending on the standing and quality of their authors. First was Sir William Jardine in Edinburgh who launched his 'Naturalists' Library' in 1833 to cover a wide range of subjects, not entirely confined to British species. Colour plates for some of Jardine's volumes were actually printed in London by Reeve. Closely behind Jardine was Van Voorst in 1836 with a series entitled 'Natural History of the British Islands' which continued haltingly until 1880. This had good authors, such as William Yarrell on fishes and birds, Thomas Bell on quadrupeds, reptiles and Crustacea, and Edward Forbes on starfishes and Mollusca. The best of these titles were published before Reeve's company entered into the competition. Another publisher, Swan Sonnenschein, directed its titles at a lower age group with 'The Young Collector' series, producing about 15 books on a wide variety of natural history subjects for the beginner between 1885 and 1897 and a slightly more advanced series called 'The Young Collectors' Handbooks', with six works, all published in 1883, including three titles by W. F. Kirby on Beetles; Butterflies and Moths; and other insect Orders. There were others on Birds; Shells; and Flowering Plants but none had any coloured plates.

Reeve joined the field in 1848 with his 'Popular Natural History' series. This ran until 1858 when it was passed to Routledge which later linked with Warne to publish the famous Wayside and Woodland series. In the same year Reeve started publication of a more advanced but still introductory series of Natural History books for students and amateurs which was known as the 'Crown Series'. These were very successful, and included authoritative texts and excellent colour plates. Each work aimed, as the advertisements announced, 'to treat of a department of Natural History sufficiently limited in extent to admit of a satisfactory degree of completeness'. The Crown Series included an introductory work on *British Beetles* by E. C. Rye, whom I have mentioned earlier as a patron and early member of our Society, published in 1866. A second was on *British Butterflies and Moths* by H. T. Stainton, distinguished lepidopterist and another of our early patrons. In addition there were three entomological works on *British Bees*, *British Wasps and Ants*, and *British Flies*. Further titles published were on *British Spiders*, *British Flowering Plants*, *British Ferns* and *British Grasses*. An important feature of all Reeve's books was the inclusion of hand-coloured plates, in this case not lithographed but mainly printed from steel engravings. The excellent Crown Series continued until at least 1891, the last being on *British Fungi* by George Edward Masee, a leading mycologist, and, incidentally, father of Arthur Morel Masee, President of our Society in 1961, whose superbly set collection of Coleoptera is now at Dinton Pastures.

One immensely successful work published by Lovell Reeve & Company, and possibly its best known, was *Handbook of the British Flora* by George Bentham. Reeve originally wanted this to be illustrated with colour plates by W. H. Fitch to supersede Sowerby's *English Botany*, 1790–1814, which had text by Sir James Edward Smith, the first President of the Linnean Society. However, Joseph Hooker, who was relying on Fitch to complete the illustrations for the third part of his *Botany of the Antarctic Voyage*, would not countenance it. In the event, Reeve published the work as the first in the Crown Series, with no plates and no figures as Bentham himself had proposed. For his text and copyright Reeve paid Bentham the sum of fifty pounds, on the broad understanding that he would submit the whole manuscript before the end of 1856. Bentham was as good as his word and the book was published in 1858. It was an immediate success.

In 1865, Reeve was able to publish Bentham's *Handbook* with Fitch's line drawings, as he had originally wanted, though sold uncoloured. In a letter to Bentham dated 17 January 1862, discussing its treatment, he wrote 'I would propose to adopt [a] larger size, the type to be the same as the type of the Preface of the original edition, except that it should not be leaded, – the lines closer. The illustrated edition would then come into one volume of goodly proportions, forming a goodly cyclopaedia'. He offered to have specimen pages prepared as soon as he had some engravings of the figures. In the event, the work was published in two volumes. The content of this letter is a clear indication of Reeve's interest in good typographical treatment no less than in a good text. All his books are far better designed than most of those published by his rivals. The layouts of his title pages make good use of line spacing and varied typefaces and sizes but not excessively so.

Bentham's *Handbook* was to go into seven editions. The 5th edition was revised in 1887 by J. D. (by then Sir Joseph) Hooker, after which it became universally known as 'Bentham & Hooker'. What botanist or entomologist working in the first half of the twentieth century would not have been familiar with 'Bentham & Hooker', a handy comprehensive guide to identification? This must surely have been the most widely used popular British Flora ever, unchallenged by any serious rival until 1952 when Cambridge University Press published *Flora of the British Isles* by Clapham, Tutin & Warburg.

Fitch's *Illustrations of the British Flora, forming an illustrated companion to Mr Bentham's Handbook* was published by Reeve & Company in 1880. They, too, went into very many editions and, together the two Bentham & Hooker volumes became an essential *vade mecum* for the field botanist.

Lovell Reeve's attempt to start a major entomological series for the serious entomologist began and ended between 1851 and 1856 with three volumes on Diptera by Francis Walker and one on Microlepidoptera by Henry Stainton. Under the title *Insecta Britannica*, it did not get beyond those four volumes. A fifth volume that had been announced on 'Hemiptera and Homoptera' was never published and no others were ever mentioned. The series, under the auspices of a distinguished committee consisting of the President of the Entomological Society and other well-known entomologists including William Spence and J. F. Stephens, may have stalled because of Reeve's inability through pressure of work to follow it up. He certainly had a lot on his hands at the time. However, on John Curtis's death, he took over Curtis's *British Entomology*, which he republished in eight volumes instead of the original sixteen but with the same number of 770 coloured plates though at half the price of the first edition. Perhaps he was inspired by these to plan the other entomological series that Reeve & Co. were to publish so successfully during the last decades of the nineteenth century.

In a diary entry for February 1849 he had written of the difficulty he had in finding time in which to think and to work on his *Elements of Conchology* which he had begun in 1846 and would not complete until 1860. 'It is not easy', he noted, 'to write the description of a new shell amid the interruptions of daily life'. In the following month, he lamented: 'I am so bewildered with work, in addition to the demands of business that I scarcely know how best to occupy my time'. Three days later an entry read 'feeling unwell, obliged to withdraw from business'. He was obviously under great strain and the pressure was not going to ease in the years ahead.

Despite his overwork, and in addition to all his other ventures, Reeve continued to take on more and more as he began to engage in publishing literary and photographic journals as well as scientific books. From 1850 to 1858 he ran *The Literary Gazette and Journal of Belles Lettres, Arts and Science* as proprietor and editor-in-chief. In 1858 he used the *Literary Gazette* to announce a new monthly,

The Stereoscopic Magazine, selling at 2s. 6d (12½p) per issue, with the purpose of depicting landscapes, architecture, antiquities, natural history, sculpture and portraiture, with accompanying descriptive text by writers of eminence. Stereoscopic photographs were to be printed to give a three-dimensional effect. The first book ever to use this technique was *Teneriffe, an astronomer's experiment*, by Piazzzi Smyth, published by Reeve in the same year. It was advertised as 'an interesting novelty' and caused a mild sensation. Smyth described Lovell Reeve as 'my intelligent and scientific publisher', but the process was labour intensive and the 2000 copies printed, each with 20 stereoscopic images, entailed pasting down 40,000 photographic images on to preprinted pages. Reeve published only four books using this process but for a time he continued to produce packets of stereoscopic pictures which were sold in monthly issues of a new venture, *The Stereoscopic Cabinet*. In 1863, publication of a new venture, *The Stereoscopic Magazine* was halted and Reeve started yet another serial, *Portraits of Men of Eminence in Literature, Science and Art with Biographical Memoirs*. Among the distinguished people featured were his shell-collecting friend, Hugh Cuming, John Obadiah Westwood, the entomologist, and Lovell Reeve himself.

In 1863, Reeve brought out his own *Land and freshwater mollusks indigenous to, or naturalized in, the British Isles*, a work illustrated by text figures but without colour plates, which was regarded by some as his finest contribution to their study (Bentham, 1865). He also published a *Handbook to British Mosses* by M. J. Berkeley, a popular moss flora with 24 delicately executed colour plates aimed at beginners which later, in 1895, went into a second edition.

In 1862, Lovell Reeve had brought Francis Lesiter Soper into the business as a partner. Little is known about Soper, who was only four years Reeve's junior but long outlived him. He was presumably engaged to handle the day-to-day affairs that so frustrated Reeve, since there is no evidence that he was other than a businessman. For the first twenty years of its existence, the firm would seem to have been run as a 'one-man band' but, as it grew, this could not continue. Perhaps Reeve had a presentiment of his early death. He was clearly very ill by 1864. In a letter to Dr Joseph Hooker written on 24 October 1864 he told him that he and his wife had decided to give up his establishment at Sutton, near Hounslow and move back to live in Henrietta Street so as not to neglect the business. He had he said, 'that day, managed to get into work for an hour or two, the first time for nearly a month', but he added that he had 'little hope of recovery'. A year later, Francis Soper, in a letter to George Bentham on 10 October 1865, reported that Reeve was 'in a very precarious state with scarcely a hope of any permanent improvement'. By 18 November he was dead. A lengthy biographical sketch was published in the December 1865 number of *Portraits of Men of Eminence*. The photographic portrait shows a man old before his time (Plate 5). Though only 51 years old, his hair has turned white and he looks withdrawn and ill, almost resigned to death. There is not a glimmer of the vitality which characterizes the earlier portrait. A postscript was added reporting his demise and paying tribute to his energy and enterprise, to which the very existence of the magazine itself was due.

Despite his illness and the severe suffering which according to *The Times* obituary he had endured for eighteen months, Reeve continued to work until near the end. One of his last public appearances was at the famous conchological sale held at the end of April 1865 in Stevens' Auction Rooms, King Street, Covent Garden, of the collection of the late John Dennison. On the third day of the sale, he was wheeled into the room in a bath chair and was immediately surrounded by his many friends. For a very high price, he bought a most perfect specimen of a *Comus gloriamaris*, the

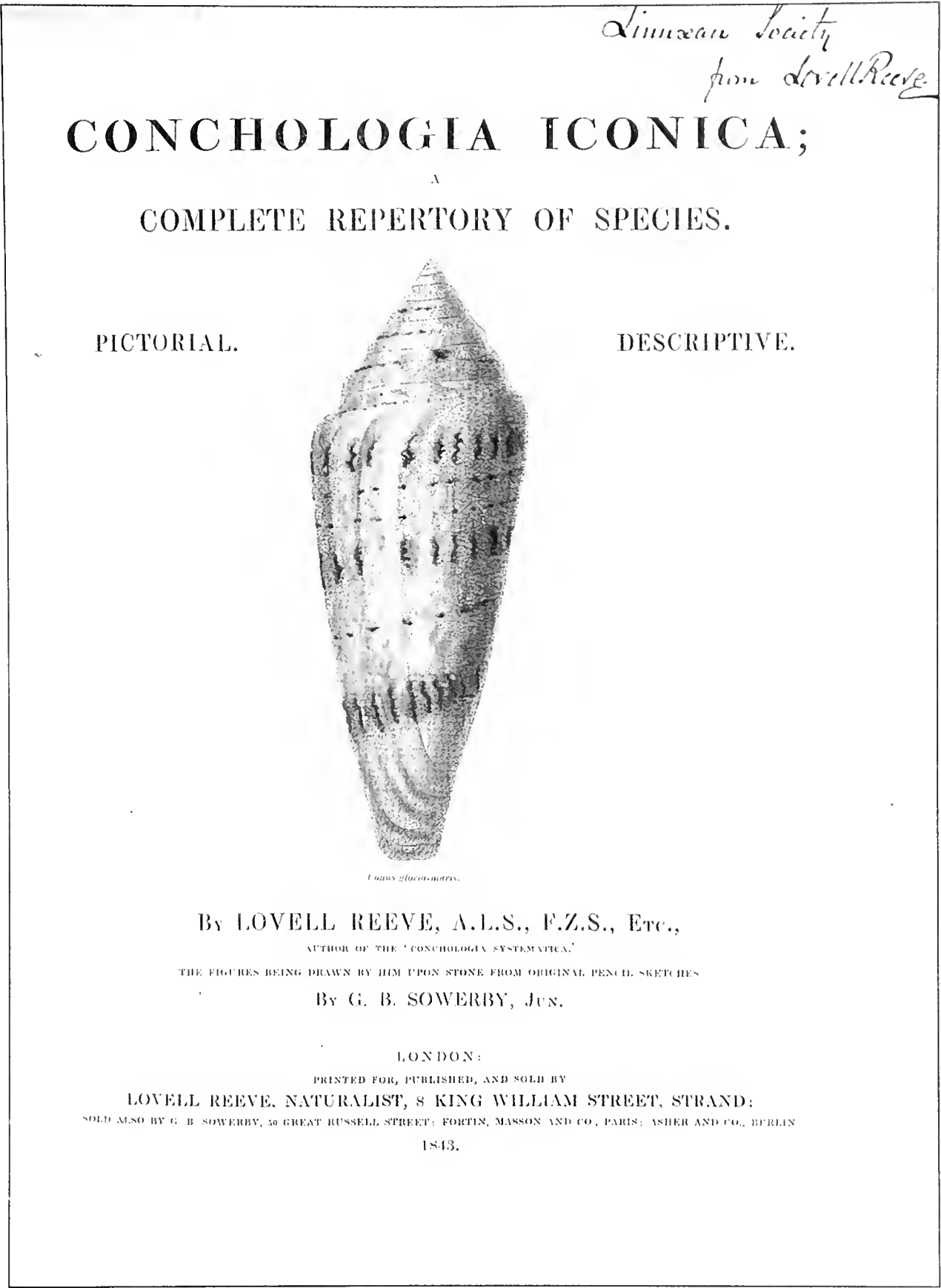


PLATE 3. Title page of Lovell Reeve’s monumental publication on shells, launched in January 1843 but not completed until 1878, 35 years after his death. The shell depicted is *Comus gloriamaris*, a great rarity. (see p.81).

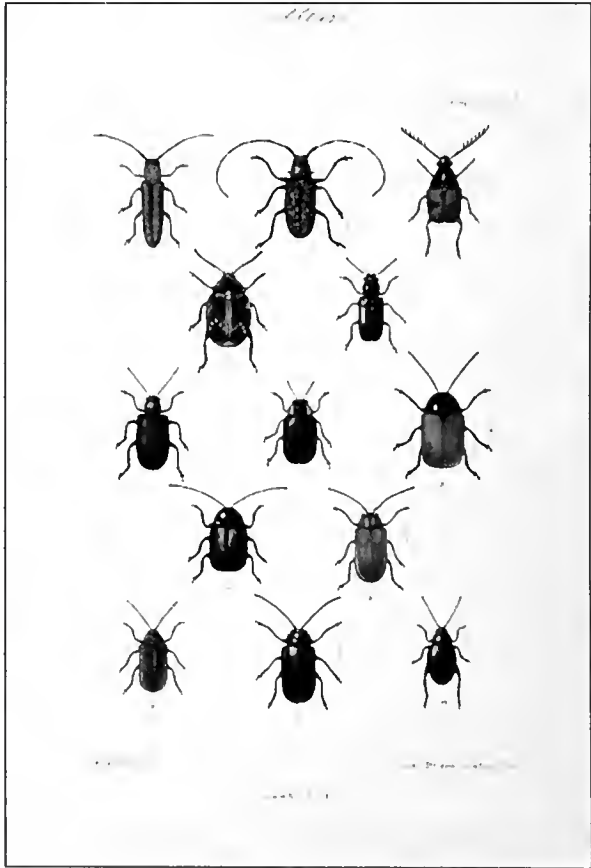
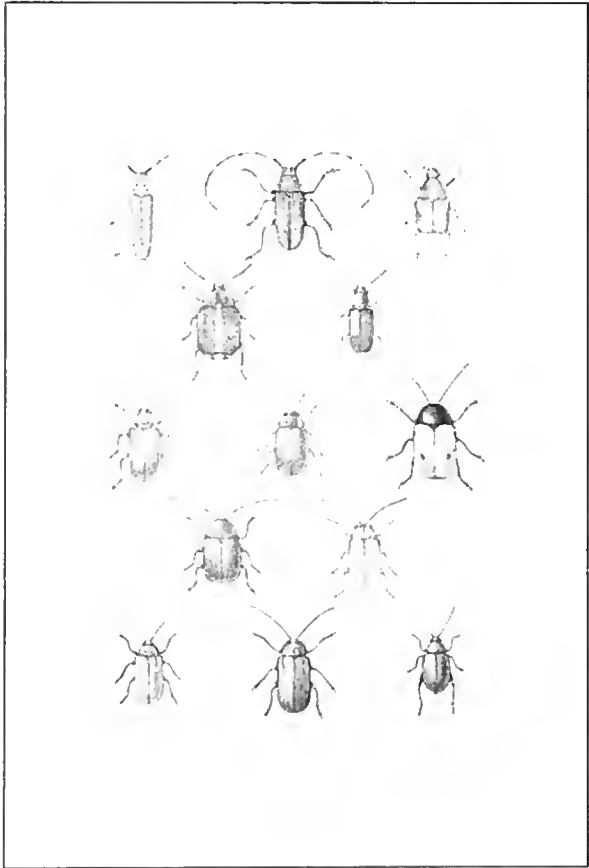
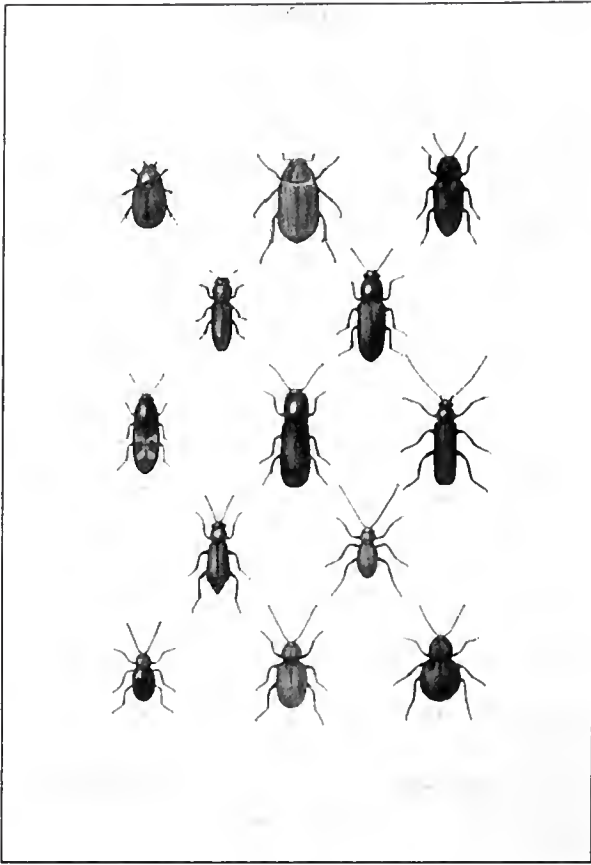
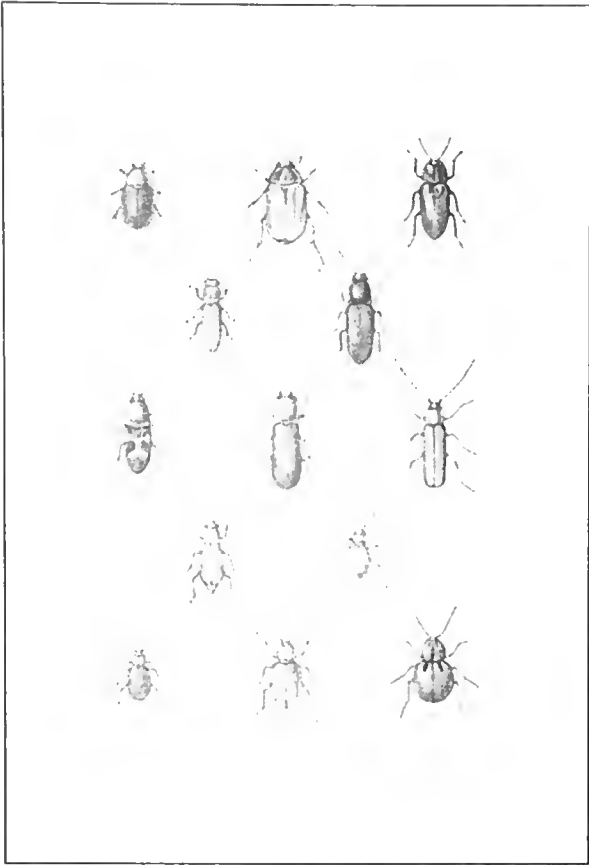


PLATE 4. Pattern plates for Fowler & Donisthorpe's supplementary volume to *Coleoptera of the British Islands*, 1913, showing (left) the uncoloured lithographs and (right) the artist's colour for the hand colourists. (see p. 85).



PLATE 5. Studio portrait of Lovell Reeve at the age of 51, when he was already a very sick man, taken by Ernest Edwards in 1865 for *Portraits of Men of Eminence*. (see p. 88).



PLATE 6. Caterpillars of Swallowtail, Black-veined, Large and Small Whites, Orange-tip, Brimstone and Clouded Yellow on their foodplants, drawn from nature by Eleonora Wilson for her husband O. S. Wilson's *Larvae of the British Lepidoptera*. (see p. 97).

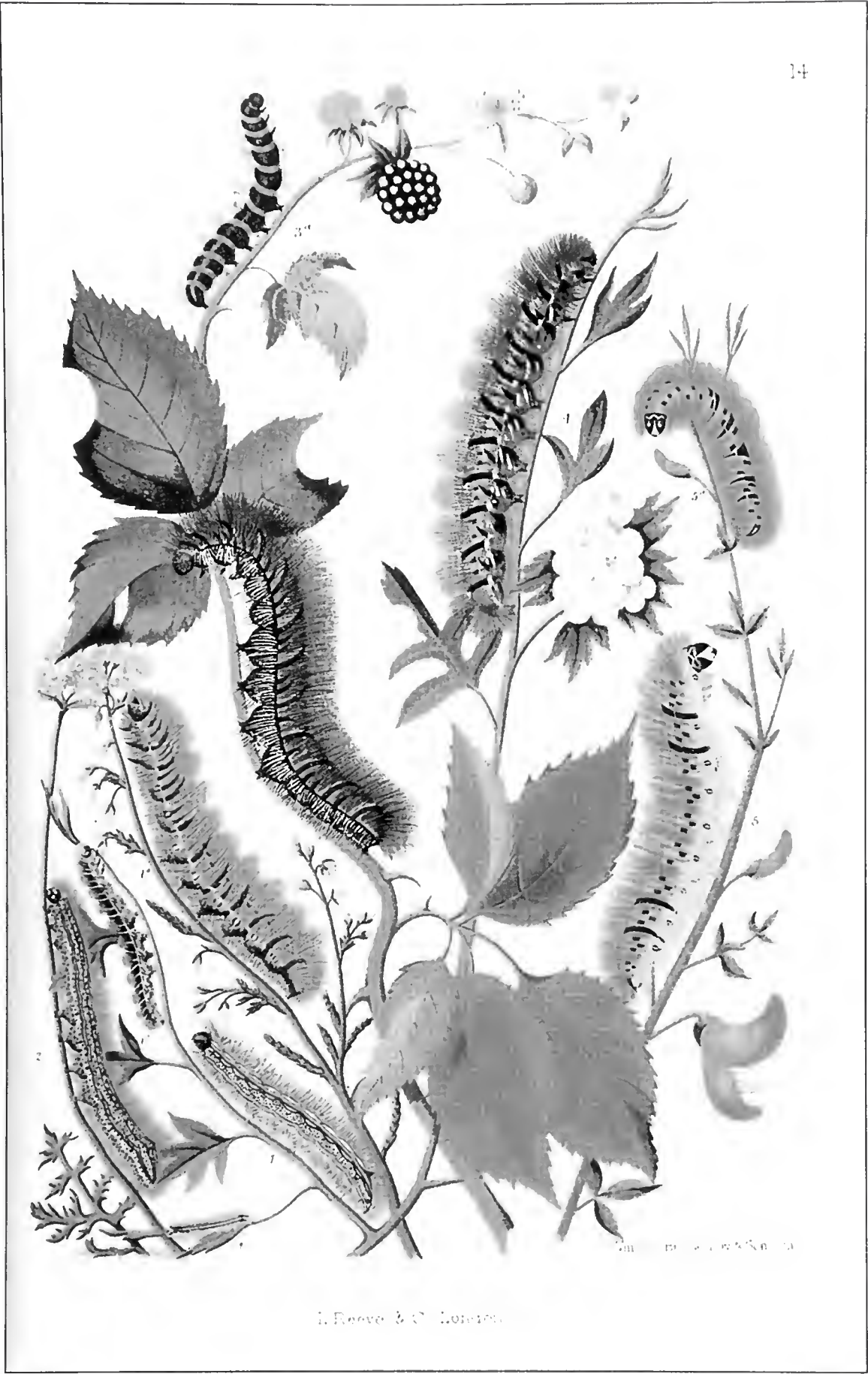


PLATE 7. Caterpillars of Lackey, Ground Lackey, Fox Moth and Oak and Grass Eggars on their foodplants, drawn by Eleonora Wilson for *Larvae of the British Lepidoptera*.

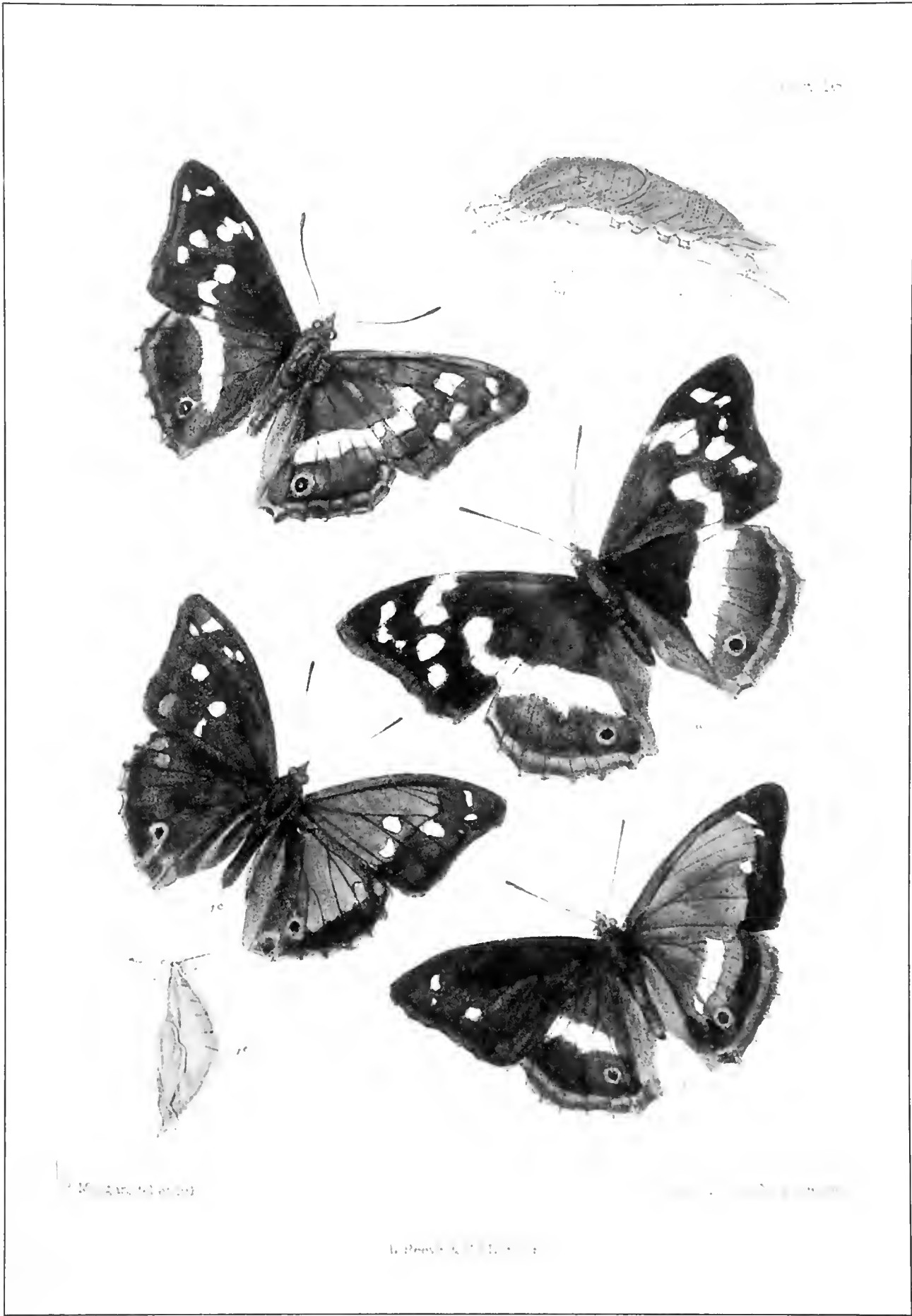


PLATE 8. Purple Emperor, male and female, with larva and pupa, from C. G. Barrett's *Lepidoptera of the British Islands*, Vol. 1. Two male 'vars' are also shown. (p.97).

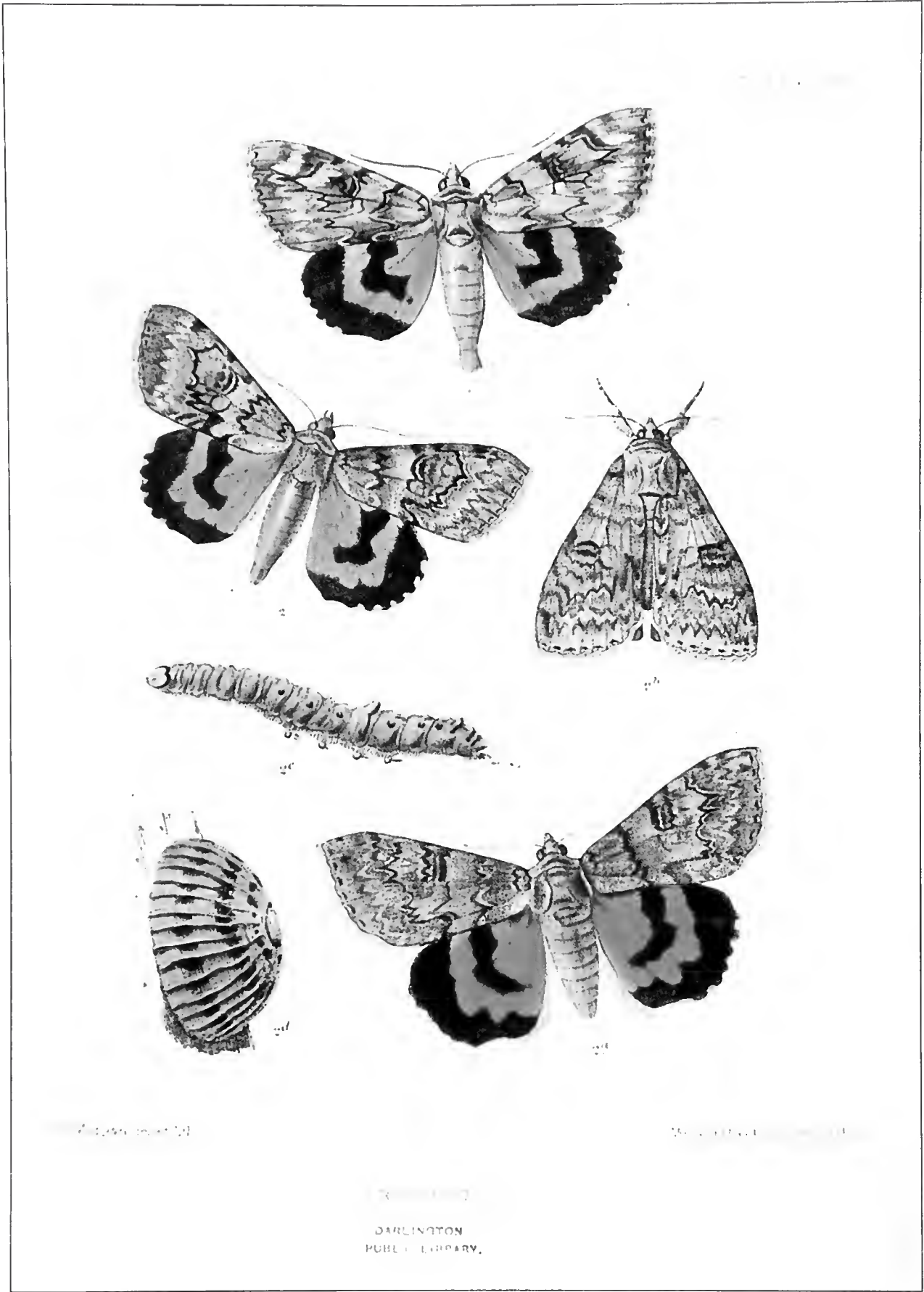


PLATE 9. The rare migrant Rosy Underwing and the familiar Red Underwing moths, with eggs and larva of the latter, from Barrett's *Lepidoptera of the British Islands*, Vol. 6.

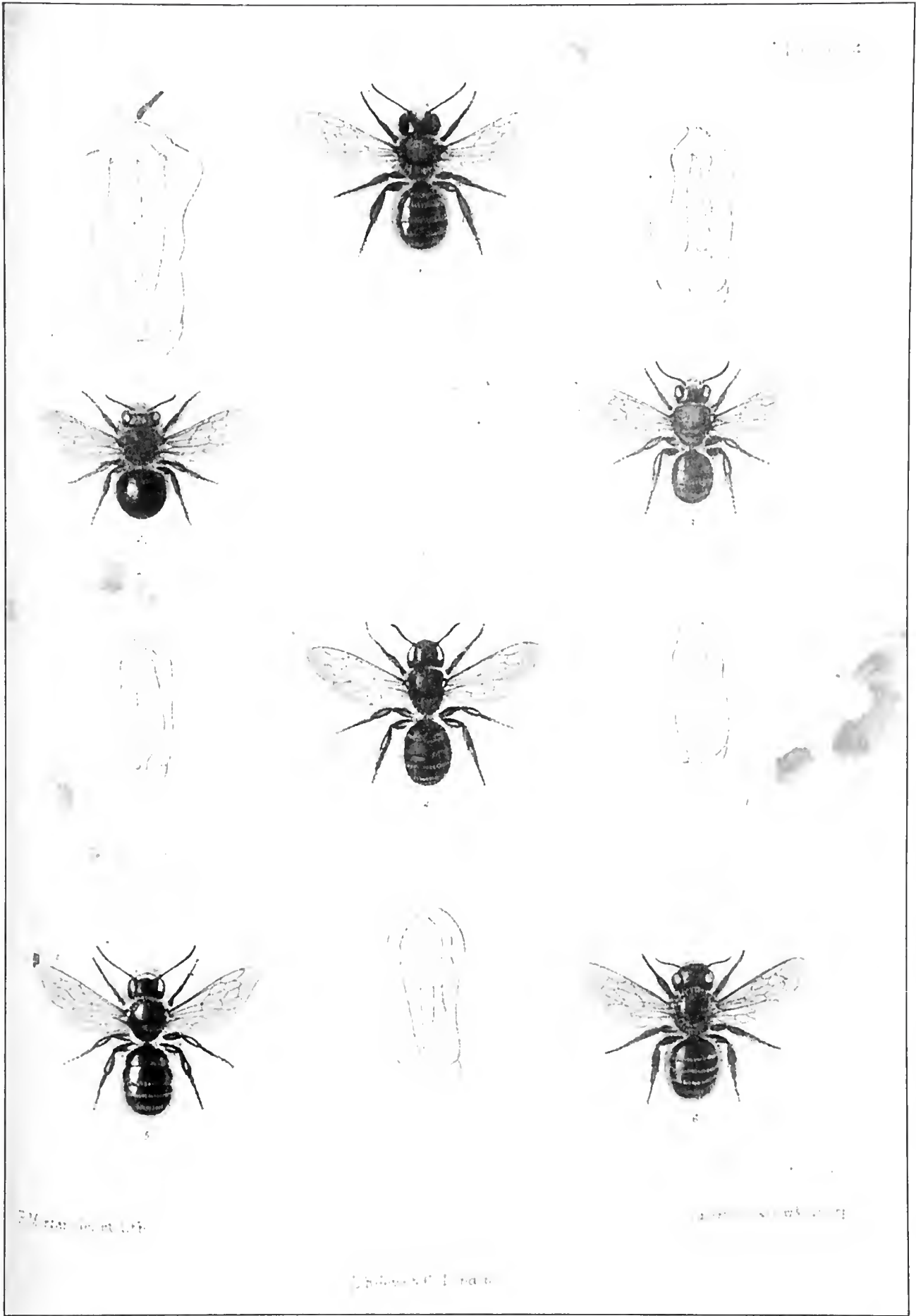


PLATE 10. Four small bees of the genus *Osmia* from E. Saunders' *Hymenoptera Aculeata of the British Islands*. The central patch is a correction to the artist's pattern plate, and the splashes of watercolour reflect its constant use. (see p.97).

species figured on the title-page of *Conchologia Iconica*, which shortly afterwards he sold on to the Australian Museum in Sydney. In one of his diary entries he had once remarked that by buying and selling shells he procured the means by which he lived.

The impact of Reeve's death on the company must have been devastating. Soper had to contend with financial problems and to ensure that the publishing programme was maintained. He was no doubt a competent administrator and able to deal with authors already contracted and even to take on new titles offered to the company, but there is no evidence that he was knowledgeable about natural history, horticulture or any of the specialist fields in which they published. All the work that had been undertaken over the twenty-three years of Lovell Reeve's control of the company derived from Reeve's own personal enthusiasm and enterprise.

On 8 January 1867, after only one year without Reeve's support, Soper had written to Dr Joseph Hooker that 'it is a slow and difficult process to turn natural history books into cash'. With works of the standard that Reeve had set and was determined to maintain, the question can legitimately be asked: 'Has anything changed?'

In 1883, L. Reeve & Co. published Frederick Townsend's *Flora of Hampshire*, its only County Flora. I mention it in this talk because our firm, Harley Books has published only one Flora which we brought out in 1996 under the same title as Reeve's and as the direct successor to Townsend.

It is not known how and when the last major titles, nearly all entomological, were commissioned and contracted for but it would not be surprising if Lovell Reeve had had at least some hand in their planning before his death. Apart from H. C. Lang's *Butterflies of Europe* ([1881–]1884) in two volumes with 82 colour plates, they all seem, as already implied, to supplement and expand on the titles published without colour plates in his *Insecta Britannica* series which came to such an abrupt end in 1856. The new series of uniformly bound monographs of British insect fauna started with Owen Wilson's *Larvae of the British Lepidoptera and their foodplants* (Plates 6 & 7), published in parts from 1872 to 1880 with 40 colour plates; continued with W. W. Fowler's *Coleoptera of the British Islands* in 5 volumes with 180 colour plates from 1887 to 1891; followed by Edward Saunders' *Hemiptera-Heteroptera of the British Islands* with 31 colour plates in 1892; C. G. Barrett's *Lepidoptera of the British Islands* in 11 volumes with 504 colour plates from 1892 to 1907 (Plates 8 & 9); James Edwards' *Hemiptera-Homoptera of the British Islands*, with 28 colour plates from 1894 to 1896; and finally, Edward Saunders' *Hymenoptera Aculeata of the British Islands* with 51 colour plates in 1896 (Plate 10). Barrett died in 1904 before the last two volumes of his *Lepidoptera* were published, and his last one was seen through the press by Richard South. The publication of the separate Index to Barrett's *Lepidoptera*, issued in 1907, and the sixth supplementary volume of Fowler's *Coleoptera* with 20 colour plates (see Plate 4, p. 90), published in 1913 with H. St J. Donisthorpe as co-author, brought to an end the line of original entomological texts under this great imprint.

In 1915, a new botanical work was published. This was on the *Potamogetons (pond weeds) of the British Isles* by Alfred Fryer, with 60 colour plates. The company's only other significant new work was *Further Illustrations of British Plants* by R. W. Butcher which did not emerge until 1930, with line drawings by Florence Strudwick. No new title in any category was published subsequently, so far as I am aware.

The company found itself in growing financial difficulties during the early years of the twentieth century. The *Botanical Magazine* was proving a liability, especially as after 1904 the Hooker family connection had come to an end. F. L. Soper was trying to off-load it on to Kew and eventually succeeded in having it taken over by the Royal Horticultural Society in 1924. By the time he died in 1910 at the age of 92, the

business was being run by two of his three sons, A. L. and F. R. Soper, the latter of whom believed the business should be sold, and expressed himself 'tired of his connection with it'. Apart from the very few new titles already mentioned, sales were maintained from its backlist and individual coloured plates from both *Curtis's Botanical Magazine* and the *Floral Magazine*, a relatively short-lived journal founded by Reeve for horticulturalists.

Efforts to sell the company, however, did not meet with success and it seems to have staggered on until the 1970s selling almost entirely from stock, reprints or printed plates, coloured by hand as they had been since 1842, according to demand. Some time after the lease finally expired, the company had moved to Kent from where it operated at addresses in and around Ashford. In the company's archive at Kew there appear to be only desultory records after 1911. The last extant shareholders' register in 1911 gives nine names, including five Sopers, two Mitchells and two by the name of Davis. Three were women. Could any of these have been daughters of Martha Reeve, Lovell Reeve's widow who had presumably died many years previously? And what happened to Reeve's other descendants? He apparently had three daughters as well as a son, J. L. Reeve, who is mentioned in a footnote to his father's entry in *The Dictionary of National Biography*. These questions merit further investigation which I have not had time to pursue.

Reeve's own collection of shells and his library had been sold in three sales on 24/25 May 1864, and, very soon after his death, on 23 January and 9 February 1866. In 1968, the pattern plates for *Conchologia Iconica* were presented by Richard I. Johnson, who had bought them from a dealer in England, to the library of the Department of Molluscs, Museum of Comparative Zoology at Harvard University in the United States. In the 1970s Eric Classey bought some of the entomological sheets and coloured plates, including the pattern plates, some of which I obtained from his firm and am proud to own.

The sad decline of Lovell Reeve & Co. in the early years of the twentieth century has tended to obscure its remarkable performance in the nineteenth. This great company, which owed so much to the dedication of its founder, Lovell Reeve, who was described in his obituary in *The Bookseller* of 30 December 1865 as 'one of the most eminent scientific publishers this country has ever produced', must not be allowed to be forgotten. I hope tonight I have secured some wider recognition of its achievements.

ACKNOWLEDGEMENTS

In preparing this Address I have had considerable help from the following librarians who, with their staff, have afforded me access to material and provided me with copies of correspondence, articles and pages from books, all of which have been of great value to me. I am grateful to them all:

Gina Douglas, Linnean Society of London; and also staff at the Geological Society of London, Burlington House; John Flanagan, Royal Botanic Gardens Library, Kew; Julie Harvey, Entomology Library; Paul Cooper, General Library, as well as staff in the Botany Library, all of the Natural History Museum, South Kensington; John Underwood, Science Museum, South Kensington; Berit Pedersen, Royal Entomological Society of London; Ruth Barriskill, Peter Ross and Lynn MacNab, Guildhall Library, Corporation of London; Elize Rowan, National Museums of Scotland, Edinburgh; Bob Pullen, St Bride Printing Library, London. I should also like to thank Ray Desmond, the former librarian at Kew, who drew my attention to certain papers there.

I am fortunate that I have also been able to consult my own extensive natural history library which contains many of the books about which I have spoken and which I have illustrated tonight, including a number from the library of my wife's great-grandfather, Richard Milne-Redhead, FLS, now in my possession. I particularly thank my wife, Annette who has given me enormous support under pressure without which I would never have been ready in time!

REFERENCES AND FURTHER READING

- Anon., 1865. Lovell Reeve, FLS, FGS. *Portraits of Men of Eminence in Literature, Science and Art with Biographical Memoirs*, pp. 85–88, photographic portrait by Ernest Edwards.
- Bentham, G., 1865. Presidential Address [2 Nov. 1865]. Obituary notices: Lovell Reeve Esq. *Proceedings of the Linnean Society of London* **1865–66**: lxxxiii–lxxxiv.
- Bridson, G. D. R., Phillips, Valerie C. & Harvey, A. P., 1980. *Natural History Manuscript Resources in the British Isles*, pp. 89 and 257. Mansell.
- Brown, P. A. H., 1982. *London Publishers and Printers c. 1800–1870*, p. 156. British Library Board.
- Cleeveley, R. J., 1995. Some 'Malacological pioneers' and their links with the transition of shell-collecting to conchology during the first half of the nineteenth century. *Archives of Natural History* **22**: 401, Fig. 10.
- Dance, S. Peter, 1966. *Shell Collecting*, p. 183; plate XXXII. Faber & Faber.
- Dance, S. Peter, 1976. 'Shells' in *Natural History Auctions, 1700–1972. A Register of Sales in the British Isles*, pp. 45–51, compiled by J. M. Chalmers-Hunt. Sotheby Parke Bernet.
- Desmond, R., 1987. *A celebration of flowers—two hundred years of Curtis's Botanical Magazine*. The Royal Botanic Gardens, Kew, in association with Collingridge.
- Dictionary of National Biography*. Reeve, Lovell Augustus (1814–1865). Compact Edn **2**: 855. Oxford.
- Hamilton, W. J., 1866. Anniversary Address of the President: Obituaries, Mr Lovell Reeve. *Quarterly Journal of the Geological Society of London* **22**: xxxiii–xxxiv.
- Hodson's Booksellers, Publishers and Stationers Directory*, 1855. Facsimile, with introduction by Graham Pollard. Occasional Publication No. 7. Oxford Bibliographical Society, Bodleian Library, Oxford.
- Johnson, Richard I., 1970. Reeve, L. A. and G. B. Sowerby, *Conchologia iconica* (1843–78): the original pattern set. *Journal of the Society for the Bibliography of Natural History*: **5**: 288.
- Melville, J. C., 1901. Lovell Reeve: a brief sketch of his life and career. *Journal of Conchology* **9**: 344–357.
- Stark, Amy E., 1981. Lovell Augustus Reeve (1814–1865)—Publisher and Patron of the Stereograph. *History of Photography* **5**: 3–15.
- Stark, Amy E., et al., 1982. Correspondence. *History of Photography* **6**: 179–181.
- Swann, A., 1992. *Conchological Books—a bookseller's perspective*, 14pp. Privately published.
- Thornbury, W., (n.d.) *Old and New London* **1**, pp. 66, 68, 220–222. Cassell, Petter & Galpin.

BOOK REVIEWS

Shieldbugs of Surrey by Roger D. Hawkins. Surrey Wildlife Trust 2003. Hardback 192 pp. ISBN 0 9526065 7 7. £15.00.

Shieldbugs of Surrey is the eighth volume in the Surrey Wildlife Atlas Series and mostly presents the work of 48 recorders during the 25 years to 2002. The title of the book is somewhat misleading as it not only includes those insects called shieldbugs by Southwood & Leston i.e. the families Acanthosomatidae, Cydnidae, Scutelleridae and Pentatomidae but also the Coreidae, Alydidae, Rhopalidae, Pyrrhocoridae and Stenocephalidae.

The first part is divided into 22 sections which range from a discussion on Surrey and its habitats to advice on how to dissect *Eurygaster*. An illustrated key to all the British species is provided and there are magnificent photographs of 42 adult species and 21 nymphs. Whilst four pages are devoted to shieldbug life-history and two to collecting bugs just one is given to predators and parasites. As the latter mentions only *Astata boops* (Schrank) (Hym: Sphecidae) and *Subclytia rotundiventris* (Fallén) (Dip: Tachinidae) it is a puzzle why photographs of *Gymnosoma rotundatum* (L.) and *Phasia hemiptera* (Fabr.) (Dip: Tachinidae) are given without further reference in the text.

The remainder is dedicated to an account of 46 species recorded from the county. Coverage is very good with only about a dozen tetrads without records. Eleven species are known from 100 or more tetrads including the Red Data Book 1 Box Bug *Gonocerus acuteangulatus* (Goeze) which is actually more widespread than *Piezodorus lituratus* (Fabr.). Unfortunately two species *Pitedia juniperina* (L.) and *Sehirus impressus* (Horváth) are declared extinct and a further four known from single records. The amount of space allocated to each species varies from just over half a page in the case of *Legnotus picipes* (Fallén) to almost six pages for *Cyphostethus tristriatus* (Fabr.) and for 22 there are phenology charts. Where species have increased their range and abundance the history is explained and for the rarer species full data are given. There is some explanation of the etymology of the scientific names and from *Pyrrhocoris* and *Acauthosoma* we are led to comprehend why *Pyracantha* is the Firethorn. Having started on such a fascinating topic one wonders why the author did not finish.

The entire volume is written in clear, concise English and, from data added a day before submission to the printer in August 2003, is fully up-to-date. It contains a wealth of biological information and must rank as one of the most important publications on British Heteroptera for almost 45 years. The author said "Perhaps the greatest regret, on completing the distribution for Surrey, is that they do not extend to the south coast of England, and at least from Kent to Dorset". Hopefully this book will stimulate others to rectify the situation.

LAURENCE CLEMONS

Butterflies in Kent, 1991–2000. By Eric Philp. 24pp. Transactions of the Kent Field Club 17 (1) 2004. Just published as part of the KFC publications, as a follow-up to *The Butterflies of Kent* (1993) available from the Hon. Editor, J.S. Badmin, Coppice Place, Kent ME13 9RP. Price £3.00.

VARIATION IN *EUPHYDRYAS CYNTHIA* (D. & S.) IN THE ALPES MARITIME, SOUTHERN FRANCE

T. G. HOWARTH

12 Fitzpain Close, West Parley, Ferndown, Dorset BH22 8SE

ABSTRACT

Several unusual variations of the fritillary *Euphydryas cynthia* collected in the Alpes Maritime were referred to, but not illustrated in the Presidential Address given by the author to the Society in 1952. A colour plate of these butterflies, kindly prepared by the National Museums of Scotland where the specimens are now stored, is reproduced below.

BACKGROUND

A little over half a century ago I was asked to collect some alpine species of Rhopalocera in the Alpes Maritime, southern France for a Mr A. Simmons of Southwell, Nottinghamshire. I visited St Martin Vesubie in 1950 and again in the following year when I was President of this Society. I gave an account of my two visits in my Presidential Address in 1952 but due to adverse circumstances I was not able to illustrate in colour some of the remarkable aberrations of the fritillary *Euphydryas cynthia* (D. & S.) that I was fortunate to encounter on my first visit. I had always wanted to have a photographic record of these individuals and then I learnt that Mr Simmons had bequeathed his collection to the National Museums of Scotland, Edinburgh. I subsequently contacted Dr Mark Shaw to see if it would be possible to have a photograph taken of some of the specimens and I am very pleased due to his kindness to have a portrait of them at last (Plate 11).

Further details of the conditions under which the specimens were collected are provided in the original address which is quoted below:

"I searched in vain for *Euphydryas cynthia* for several days but finally located it near the Col already mentioned at about 7000 ft. This attractive "Fritillary", which resembles *E. aurinea* Rott. in its female, is much more sexually dimorphic than our British species in having a beautiful brown, black and white barred male. On climbing higher a day or so later I found the butterfly in hundreds. The sexes were equally common and in the high wind and during cloudy weather it was easy to find pairs *in copula* and at rest in the grass tufts. These tufts were to become the object of my searches for I was fortunate in taking an extreme aberration on one of my first visits. As one would imagine, *cynthia* varies in much the same manner as does *aurinea* and it was with great excitement that I boxed this ♀ aberration. It has many of the black spots coalescing on the upper surface and on the undersurface of the hindwings has the whitish submarginal spots radiating inwards and replacing the usual yellowish ground colour as far as the discal area, which is a plain reddish brown. I took four or five of this type of aberration and one with all the black markings replaced by a beautiful dove grey giving this insect a faint resemblance to a photographic negative. The males varied little compared with the females, and mostly towards a reduction or enlargement of the white markings on the upper surface of the wings. Due to the lateness of the season and the appalling weather conditions prevailing in 1951, larvae of this species were to be found commonly only half grown where the butterflies would have been emerging in the preceding year.

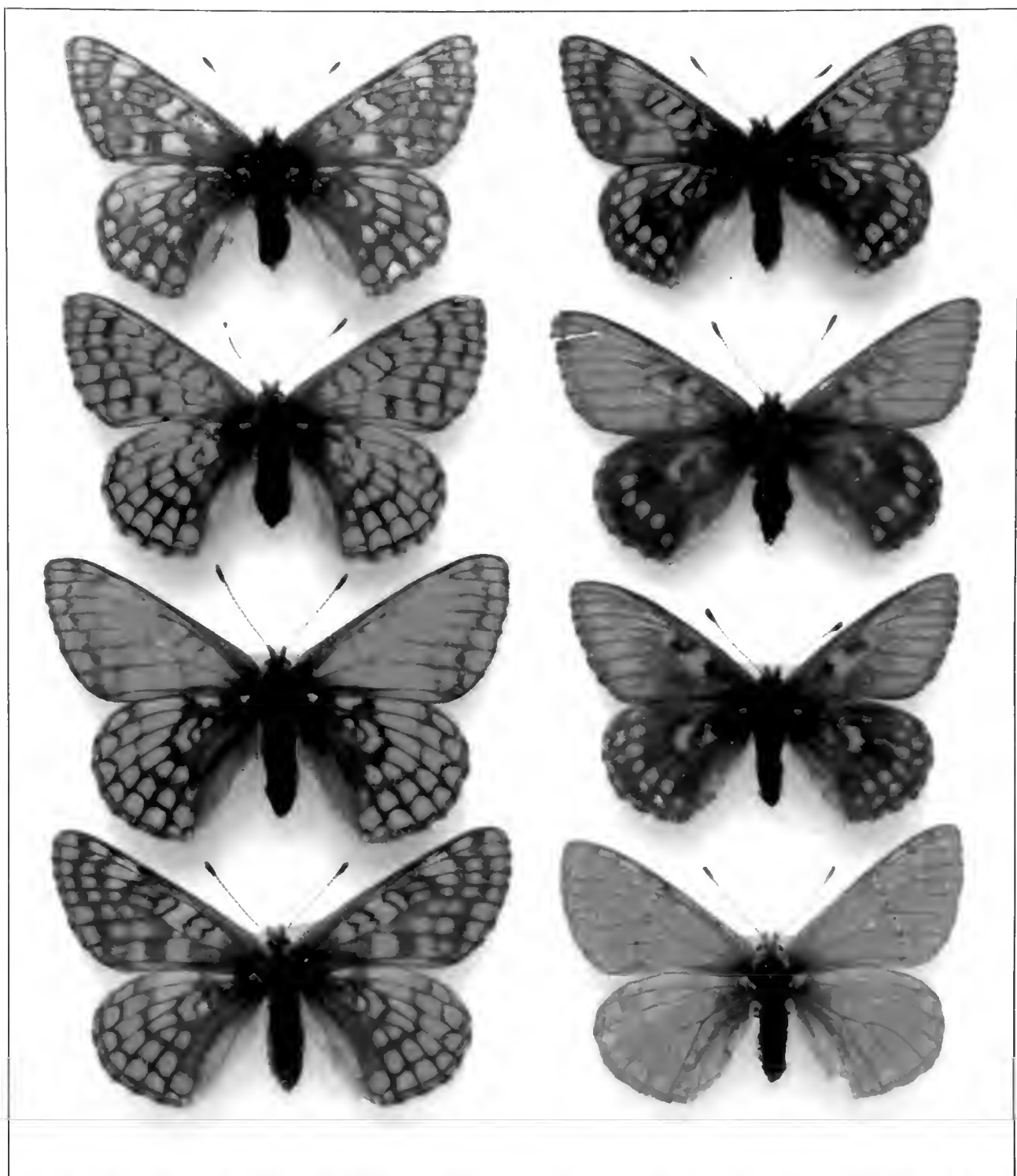


PLATE 11. Females of *Euphydryas cynthia* showing variation within a population on Mt Balme de la Frema, La Colmiane, St Martin Vesubie, Alpes Maritime, southern France 7,000 feet, late June to July 1950 & 1951. Ex collection of A. Simmons. Reproduced by kind permission of the Trustees of the National Museums of Scotland.

They feed on *Plantago alpina* L. a small plant with little tufts of spiky leaves which up here only grows about an inch high, but lower down grows much more luxuriantly with leaves nearly six inches long."

REFERENCE

- Howarth, T. G. 1952. The 1952 Presidential Address Part 2. Collecting Lepidoptera in the South of France 1950 and 1951. *Proceedings of the South London Entomological & Natural History Society* 1952-53: 52-65.

***RODOLIA CARDINALIS* (MULSANT), THE VEDALIA
LADYBIRD (COLEOPTERA: COCCINELLIDAE) FEEDING
ON *ICERYA PURCHASI* MASKELL, COTTONY
CUSHION SCALE (HEMIPTERA: MARGARODIDAE)
IN LONDON GARDENS**

A. SALISBURY¹ and R.G. BOOTH²

¹Entomology Section, Royal Horticultural Society's Garden, Wisley, Woking, Surrey, GU23 6QB

²c/o Department of Entomology, The Natural History Museum, Cromwell Road,
London SW7 5BD

ABSTRACT

The Vedalia ladybird *Rodolia cardinalis* (Mulsant), a cosmopolitan species native to Australia, is reported from two locations in London for the first time. Its continued presence will depend to a great extent on the survival of its prey, the recently established scale *Icerya purchasi* Maskell.

INTRODUCTION

On 30 September 2003 two adult specimens of an unfamiliar coccinellid were collected from the garden of a public house in Chelsea, London (TQ2777). These were subsequently identified as the Vedalia ladybird, *Rodolia cardinalis* (Mulsant), by Roger Booth. A further visit to the site by Max Barelay, Roger Booth and Darren Mann at dusk on 9 October 2003 found many *R. cardinalis*, together with its usual host, *Icerya purchasi* Maskell, on ivy (*Hedera helix* L.) growing over the boundary wall of the pub garden next to the pavement. Roger Booth visited the site again on the morning of 13 October 2003 and observed several adult *R. cardinalis* running over the leaves of ivy and other hedge shrubs along the adjacent pavement, together with abundant larval exuviae and thick infestations of *I. purchasi*. Many of the ladybird final-instar larval exuviae were empty, but several contained developing pupae or teneral adults. Another brief visit was made with A.J.W. (Tony) Allen during the early afternoon on 17 October 2003, when *R. cardinalis* adults were still active and both adults and larval exuviae were observed on property boundary walls as well as on foliage. On a visit to the area by Andrew Halstead on 22 October 2003, pupal exuviae of the ladybird were found on an *I. purchasi*-infested *Acacia dealbata* Link at a different site in Chelsea (TQ2677), some 300–400 m away from the first. In addition, active *R. cardinalis* larvae and pupae were observed at the original site on *I. purchasi* infested lime (*Tilia* spp.), *Viburnum × rhytidophylloides* Suring. and ivy. This is the first time that this ladybird has been recorded from the UK. Specimens have been deposited in The Natural History Museum, London, the Oxford University Museum and the Royal Horticultural Society's collections.

FIELD DESCRIPTION

Rodolia cardinalis is convex dorsally and short-oval in outline (Fig. 1). It resembles the seymnine ladybirds among the British fauna in having its surface covered with short, dense pubescence and in having short antennae, but is larger (2.6–4.2 mm), has 8-segmented antennae and rather stout, basally-thickened tibiae. British examples are mostly pitchy black above with smaller reddish markings, and while the species is variable in coloration, from almost all red to almost all black, typical examples are reddish with two pairs of dark markings and a dark suture on the elytra.



Figure 1. Two adult *Rodolia cardinalis* feeding outdoors on cottony cushion scale, 2003. Photo: Andrew Salisbury

DISCUSSION

Rodolia cardinalis is the ladybird that was introduced into California (USA) from Australia in the late 19th Century to control the cottony cushion scale, *I. purchasi*. This introduction saved the Californian citrus industry and is one of the most widely quoted examples of successful classical biological control. It is more or less host-specific on *Icerya* spp., at least for its development, and today the ladybird is found feeding on the scale in many places around the world (Clausen, 1978). As we are not aware of any commercial use in glasshouses of this ladybird for biological control in Britain, it is therefore likely to have either been accidentally imported with infested plants, or been illegally released. With the increasing frequency of *I. purchasi* occurring in Britain out of doors and on conservatory plants (Watson & Malumphy, 2004) the ladybird may become established and it could possibly have a controlling effect on the scale.

ACKNOWLEDGEMENTS

Thanks are due to Juliet Dukes, who spotted the first *R. cardinalis* walking up a pint glass. Max Barclay for facilitating the identification and source of the ladybird. Gillian Watson for confirming the identification of *I. purchasi*. James Armitage for his help with plant identification and taxonomy. Darren Mann, Tony Allen and Andrew Halstead for additional information and assistance.

REFERENCES

- Clausen, C.P. (ed.) 1978. Introduced parasites and predators of arthropod pests and weeds: a world review. *Agriculture Handbook, United States Department of Agriculture*, **480**: 1–545.
- Watson, G.W. & Malumphy, C.P. 2004. *Icerya purchasi* Maskell, Cottony Cushion Scale (Hemiptera: Margarodidae), causing damage to ornamental plants growing outdoors in London. *British Journal of Entomology and Natural History*, **17**: 105–109.

***ICERYA PURCHASI* MASKELL, COTTONY CUSHION SCALE (HEMIPTERA: MARGARODIDAE), CAUSING DAMAGE TO ORNAMENTAL PLANTS GROWING OUTDOORS IN LONDON**

G. W. WATSON

Entomology Department, The Natural History Museum, Cromwell Road, London SW7 5BD

C. P. MALUMPHY

Central Science Laboratory, Sand Hutton, York YO4 1LZ

ABSTRACT

Icerya purchasi Maskell is reported as established outdoors in England for the first time. It has been found on ornamental plants belonging to 24 genera, and caused severe damage to *Acacia dealbata*, *Choisya ternata*, *Hebe* sp., *Laurus nobilis* and *Pyracantha coccinea*. Intereception records of *I. purchasi* on imported plant material to England are summarised.

INTRODUCTION

Icerya purchasi Maskell is probably native to Australia (CAB International, 2002), but has been spread by international plant trade to such an extent that it is now found throughout the warmer parts of the world. It has numerous common names of which the most widely used in English are 'Fluted scale' and 'Cottony cushion scale'. It occurs throughout the Mediterranean and appears to have recently increased its natural geographical range northwards in Europe. Severe infestations were found on ornamental plants in the centre of Paris, France, in 1999 (Matile-Ferrero *et al.*, 1999). It has been detected in Britain on many occasions on imported plant material and transient populations have existed in glasshouses. During 1996, 2001 and 2002, *I. purchasi* was found breeding on plants growing outdoors in Greater London and Addlestone, Surrey. The purpose of this communication is to report the occurrence of *I. purchasi* breeding outdoors in Britain for the first time.

Slide-mounted specimens of *I. purchasi* from these records have been deposited at the Central Science Laboratory, Sand Hutton (CSL) and The Natural History Museum, London (BMNH).

FIELD DESCRIPTION

In life, *I. purchasi* is very distinctive (Fig. 1) and it is unlikely to be confused with any native scale insect (Coccoidea) found in Britain. The adults are large (body with ovisae up to 10 mm long), oval, reddish brown with a granular surface and an orange-red border, with small dorsal tufts of white wax and black setae. The legs and antennae are black. Each wingless adult carries a large, white, fluted ovisac up to 15 mm long. The immature stages have red bodies covered in white and yellow wax and long, thin, translucent wax rods.

Icerya purchasi usually feeds along the major veins on the lower leaf surfaces, and on the stems of host plants, often congregating in large, conspicuous masses.



Figure 1. Adults of *Icerya purchasi* with ovisacs

Authoritative identification of *I. purchasi* requires microscopic examination of slide-mounted adults (preferably teneral). There are tufts of black hair on the body, unlike most other *Icerya* species worldwide, in which the body hairs are not pigmented. Useful references for the identification of *I. purchasi* include Rao (1951), Howell & Beshear (1981), Williams & Watson (1990) and Morales (1991).

HOST PLANTS AND BIOLOGY

Icerya purchasi is highly polyphagous, attacking mainly woody ornamental and crop plants including fruit and forest trees. The host-plant genera most widely grown in Britain are: *Acacia*, *Begonia*, *Buxus*, *Cauellia*, *Choisya*, *Citrus*, *Cytisus*, *Elaeagnus*, *Euphorbia*, *Fragaria*, *Fuchsia*, *Hebe*, *Hedera*, *Hydrangea*, *Impatiens*, *Jasminum*, *Juncus*, *Laburnum*, *Laurus*, *Medicago*, *Morus*, *Pelargonium*, *Pittosporum*, *Prunus*, *Quercus*, *Rosa*, *Senecio*, *Spiraea*, *Syringa* and *Ulex*.

The species has four instars in the hermaphrodite wingless adult and five instars in the rare, winged male (Morales, 1991). Each wingless adult has a pair of ovotestes and produces 600–1000 eggs, normally by self-fertilisation. The eggs are laid in a

fluted ovisac of white wax secreted at the posterior end of the insect; this shelters them until the crawlers hatch and disperse. Fecundity varies with the size of the parent, the quality of the host plant, and climatic conditions. The functional males develop from unfertilised eggs and are uncommon; each has a single pair of brown wings and long, hairy antennae.

The first instar crawlers are the only stage of *I. purchasi* that actively and passively disperses; subsequent stages of the wingless form are sessile unless seriously disturbed. Each crawler is only capable of walking a few metres before settling to feed. However, strong wind can pick up crawlers and carry them for considerable distances. On Aldabra Atoll in the Indian ocean, Hill (1980) recorded crawlers of the related species, *I. seychellarum* (Westwood) being taken by wind to an altitude of 6 metres and over a distance of 3.5 kilometres.

Several predators and some dipterous parasitoids have been recorded attacking *I. purchasi* in tropical and subtropical countries, of which members of the genus *Rodolia* (Coleoptera: Coccinellidae) are often the most important natural enemies.

GEOGRAPHICAL DISTRIBUTION

Icerya purchasi is generally considered to have originated in Australia, but its wide climatic tolerance has enabled it to become established as a pest in southern Europe, unlike related *Icerya* species (CAB International, 2002). It has been discovered periodically in glasshouses in temperate regions, and was recorded as established outdoors in France (Paris) in 1999 by Matile-Ferrero *et al.* (1999). Its recent establishment in northern France and Britain suggests that the species may be extending its distribution northwards, possibly as a result of climate change.

RECORDS OF *ICERYA PURCHASI* IN BRITAIN

Icerya purchasi was first recorded from Britain in 1926, on *Pittosporum* plants imported from France two years earlier and grown under glass in Derby (Green, 1926). Green considered that *I. purchasi* could become "a serious pest in our plant houses, though it is improbable that it could survive a winter in the open". The infested plants were destroyed. The species was later found breeding on *Acacia* plants in a conservatory in Cheshire in 1931; Green (1931) reported that "the second invasion was a more serious affair". The Plant Pathology Laboratory, Harpenden, organised the eradication of the infestation but *I. purchasi* continues to be intercepted in Britain on imported plant material and transient populations have been found breeding under artificial conditions (Boratynski & Williams, 1964).

Recent interceptions of *I. purchasi* by the Plant Health and Seeds Inspectorate (PHSI) at commercial plant nurseries include the following: Buckinghamshire, Aylesbury, on *Laurus nobilis* L. from Italy, 19.ix.2002; Cambridgeshire, Ely, on *Citrus sinensis* (L.) Osbeck from Italy, 5.iii.2003; Huntingdon, on *Adenanthos* sp. from Israel, 14.v.1998; Cheshire, Knutsford, on *Adenanthos* sp. from Israel, 24.viii.2001; Cornwall, Penzance, on *C. sinensis* from ?Italy, 28.iv.1997; Essex, Kirby Cross, on *C. limon* (L.) Burm. and *C. sinensis*, origin unknown, 11.xii.2002; Greater London, on *C. limon* from Italy, 7.ix.1998; Ham, on *C. limon* from Italy, 4.ix.1998 (present for 18 months), on *C. mitis* Blanco, "*C. myrtifolium*", *C. limon* and *C. sinensis* from Italy, 20.iii.2000; Hampshire, Ampfield, on *Citrus* sp. from Italy, 23.i.2001; Ringwood, on *C. reticulata* Blanco and *C. unshiu* (Mak.) Marcov. from Spain, 6.ix.1999; Lincolnshire, Spalding, on *C. reticulata*, 22.v.1998, on *Pittosporum* from ?Israel, 24.x.2000; Middlesex, Enfield, on *C. limon*, 17.x.2002; North Yorkshire,

York, on *Citrofortunella microcarpa* (Bunge) Wijnands from The Netherlands, 28.v.2002; Surrey, Banstead, on *L. nobilis* from Belgium, 27.iii.2000; West Sussex, Barnham, on *Leucospermum* sp. from Israel, 26.iii.2001; and West Grinstead, on *Acacia*, *Bougainvillea* and *Citrus* sp., origin unknown, 13.viii.1998.

Andrew Halstead, Senior Entomologist at the Royal Horticultural Society's (RHS) Garden, Wisley, has received the following samples of *I. purchasi* from private gardens since 1999: Cornwall, Truro, on *Acacia* sp., 29.vii.1999; Dorset, Monk Sherbourne, on *Acacia dealbata* Link, 18.i.2002; Durham, Washington, on *Citrus* sp., 7.xi.2000; Kent, Maidstone, on *Citrus* sp., 10.xi.1999; Chislehurst, on *Citrus* sp., 5.ii.2001; Lincolnshire, Spalding, on *A. dealbata*, 17.iv.2001; Surrey, Ockley, on *A. dealbata*, 24.vii.2000; West Sussex, Ferring, on *A. dealbata*, 5.xii.1999; and Wiltshire, Salisbury, on *Citrus* sp., 24.x.2001, but it is not known which of these records were collected outdoors.

However, *I. purchasi* definitely has been found breeding outdoors in Britain at eight localities, most within Greater London: Balham (SW12), on *Acacia* sp., ?*Acer* sp. and ?*Cotoneaster* sp., 8.xi.2002; Barkston Gardens (SW5), on *Acacia dealbata*, 20.x.2001; Bishopsgate, on *Acacia* sp. and *Hedera helix* L. growing over a building, 12.ix.1996; Chelsea (SW10), in very large numbers on two *L. nobilis* and two *Choisya ternata* (La Llave & Lex.) Kunth plants, viii.2002 (the householder believed that an *Acacia* sp. had been killed by the pest); Chelsea Park Gardens (SW3), on *Acacia* sp., 5.ii.2003; and Fulham (SW6), in several adjacent gardens on *Begonia* sp., *Camellia japonica* L., *Choisya ternata*, *Dahlia* sp., *Elaeagnus* sp., *Hebe* sp., *Hedera helix*, *Hydrangea* sp., *Impatiens* sp., *Jasminum* spp., *L. nobilis*, *Prunus* sp., *Pyracantha coccinea* M. Roem., *Quercus* sp., *Rosa* sp., *Senecio* sp., ?*Spirea* sp., *Syringa* sp. and *Wisteria* sp. Heavy infestations caused severe damage to *C. ternata*, *Hebe* sp., *L. nobilis* and *P. coccinea*. The owner of one of the infested gardens described some plants as looking as if they had been burnt, due to the foliage being completely smothered in black sooty mould growing on honeydew excreted by the insects. *Icerya purchasi* has been collected also from the formal gardens at Hampton Court Palace on *Citrus* sp., 24.viii.2002; and on *L. nobilis*, 22.xi.2002. The *Citrus* plants were protected during the winter. Most recently, it was found in Surrey, Addlestone, on *A. dealbata* and *H. helix* growing against the wall of a row of terraced houses, 24.xi.2002; and in London (SW3) on *Laburnum* sp., *Acacia* sp. and *H. helix*, 16.xii.2003.

ECONOMIC IMPORTANCE

Icerya purchasi is economically most important in the Mediterranean as a pest of *Acacia*, *Citrus* and *Pittosporum*. Infestation by the scale damages plants mainly by sap depletion; shoots dry up and die, and defoliation occurs. In addition, the copious honeydew excreted by the insects coats adjacent leaves, often giving rise to sooty moulds, blocking light and air from the leaves and impairing photosynthesis.

The regulation of *I. purchasi* by natural enemies is one of the classic success stories in biological control. A detailed account of the introduction of the Vedalia beetle, *Rodolia cardinalis* (Mulsant), into California and its control of *I. purchasi* is given by Caltagirone & Doutt (1989).

REMARKS

The number of identifications of *I. purchasi* made by the Royal Horticultural Society, Central Science Laboratory and The Natural History Museum has increased

during the last ten years, indicating that this pest is being imported into Britain more frequently. The increase is almost certainly due to the growing popularity of conservatory plants, such as *Citrus* spp. and *Acacia dealbata*, which are usually imported from the Mediterranean and may harbour early nymphal stages of *I. purchasi* that go undetected at plant quarantine inspection.

Icerya purchasi has the potential to spread more widely outdoors in sheltered situations in southern England and particularly in large urban heat islands, such as London. It can be moved over long distances by wind (Hill, 1980) and on ornamental plants in trade (CAB International, 2002), and has been found at commercial plant nurseries on numerous occasions.

Suspected outbreaks, or interceptions, of non-indigenous insects on growing plants should be reported to the Department for Environment, Food and Rural Affairs (Defra), Plant Health and Seeds Inspectorate office or the PHSI HQ, York (Tel.: 01904 455174, Fax: 01904 455197) and samples submitted to CSL for identification.

ACKNOWLEDGEMENTS

Andrew Halstead of the Royal Horticultural Society, Wisley; Jon Martin of the Entomology Department, The Natural History Museum, London; and Christine Tilbury of the Forestry Commission kindly provided identification records of *I. purchasi*. This work was partly funded by the Plant Health Division, Defra.

REFERENCES

- Boratynski, K.L. & Williams, D.J., 1964. Coccoidea. In *Checklist of British Insects*, by Kloet, G.S. & Hinks, W.D. (Eds) 2nd ed. *Handbook for the Identification of British Insects* **11**: 87–94.
- CAB International, 2002. *Icerya purchasi*. Crop Protection Compendium, Global Module, 2nd Edition. CD-ROM. CAB International, Wallingford, UK.
- Caltagirone, L.E. & Douthett, R.L., 1989. The history of the vernalia beetle importation to California and its impact on the development of biological control. *Annual Review of Entomology* **34**: 1–16.
- Green, E.E., 1926. Observations on British Coccidae. X. *Entomologist's Monthly Magazine* **62**: 172–183.
- Green, E.E., 1931. Observations on British Coccidae. XIII. *Entomologist's Monthly Magazine* **67**: 99–106.
- Hill, M.G., 1980. Wind dispersal of the coccid *Icerya seychellarum* (Margarodidae: Homoptera) on Aldabra Atoll. *Journal of Animal Ecology* **49**: 939–957.
- Howell, J.O. & Beshear, R.J., 1981. An illustrated redescription of *Icerya purchasi*. *Journal of the Georgia Entomological Society* **16**: 441–444.
- Matile-Ferrero, D., Legrand, J. & Riffet, X., 1999. Une surprenante infestation de la cochenille australienne *Icerya purchasi* Maskell en plein Paris [Hemiptera, Margarodidae]. *Revue Française d'Entomologie (N.S.)* **21**: 175–178.
- Morales, C.F., 1991. Margarodidae (Insecta: Hemiptera). *Fauna of New Zealand* **21**: 1–123.
- Rao, V.P., 1951. Iceryine scale insects recorded from the Orient. *Indian Journal of Entomology* **12**: 39–66, 127–158.
- Williams, D.J. & Watson, G.W., 1990. *The Scale Insects of the Tropical South Pacific Region. Part 3. The Soft Scales (Coccidae) and other Families*. Wallingford, UK: CAB International. 266 pp.

SHORT COMMUNICATIONS

The Black Bog Ant *Formica candida* (Smith) (Hymenoptera: Formicidae) in Surrey – On 23 July 2003, we visited the Pirbright Ranges to survey Hagthorne Bog for invertebrates. We both picked up singleton workers of a shiny black ant on open Sphagnetum areas. Subsequently on 18 August we visited the area again with John Pontin and David Baldock to look for further examples of this ant, which we were convinced was *F. candida* (Smith). Workers were swept from open mire areas near Colony Bog, and in Strawberry Bottom where a nest was also located containing a few dozen workers.

The ants were only found in very open parts of the mire areas with little tall emergent vegetation (National Vegetation Classification M21 *Narthecium ossifragum*-*Sphagnum pilosum* valley mire habitats (Rodwell, 1991), and avoided areas tending towards M25 *Molinia* dominated communities.

The lack of any previous Surrey record is somewhat surprising given the attentions of workers such as Horace Donisthorpe, but access into this hazardous training area has always been very limited, and it does support by far and away the largest mire areas in the county. The Pirbright Bogs have much in common with the larger New Forest mire systems, and most of the rarer invertebrates present in Hagthorne, Colony and Strawberry Bottom bogs occur in the New Forest.

Many thanks to the following: Mary Adler for organising the meetings, the Ministry of Defence for allowing us access to the training area and John Pontin for confirming the identification of this species. – JONTY DENTON, Kingsmead, Wield Road, Alton, Hants GU34 5NJ, UK. GRAHAM A. COLLINS, 15 Hurst Way, South Croydon, Surrey CR2 7AP, UK.

REFERENCE

- Rodwell, J. S. (ed) 1991. *British Plant Communities 2: Mires & Heaths*. Cambridge University Press.

A recent record of *Hippodamia 13-punctata* (L.) (Coleoptera: Coccinellidae) from Dorset. – On 25 August 2002, a single male of this distinctive-looking ladybird was captured at Hengistbury Head, Dorset whilst recording Diptera and aculeate Hymenoptera on a fine sunny day. The precise location of capture is not recalled, though the day's surveying concentrated almost exclusively on the west slope of Warren Hill and the heathland north and north-west of this (around NGR SZ169908) and involved much sweeping of heather and acid grassland. No surveying of wetland (the favoured habitat) took place, though saltmarsh and *Phragmites* occur nearby. I am grateful to Roger Booth of the Natural History Museum for confirming the specimen and to the ranger service for permitting recording at the site. This may be the first British record of the beetle since 1952, though it could just represent a vagrant. The same day produced a good list of scarcer bees and wasps, including *Andrena argentata* Smith, *Bombus lucorum* Illiger (a particularly strong population), *Cerceris ruficornis* (Fab.), *Cryptocheilus notatus* (Rossius), *Gorytes bicinctus* (Rossius), *Mutilla europaea* L., *Nomada fuscata* Panzer, *Sphecodes longulus* von Hagens and *S. reticulatus* Thomson. – STEVEN J. FALK, Warwickshire Museum, MarketPlace, Warwick CV34 4SA. E-mail: Stevenfalk@warwickshire.gov.uk.

***EUPTERYX DECEMNOTATA* REY (HEMIPTERA, CICADELLIDAE) NEW TO BRITAIN**

N. MACZEY¹ AND M. R. WILSON²

¹*Ecological Applications CABI Bioscience, Bakeham Lane, Egham, Surrey TW20 9TY*

²*Department of Biodiversity & Systematic Biology, National Museums & Galleries of Wales,
Cardiff, CF10 3NP*

ABSTRACT

The leafhopper *Eupteryx decemnotata* Rey (Cicadellidae, Typhlocybinae), is reported for the first time from southern Britain. Notes on the taxonomy, distribution and biology are given.

INTRODUCTION

Within the subfamily of the Typhlocybinae, most species of the genus *Eupteryx* are characterized by very distinctive colour patterns on wings and head. This and the fact that a lot of the species feed on common and widespread host plants, especially on nettles and Lamiaceae (Stewart, 1988), makes them one of the most obvious leafhopper genera in urban and suburban environments. Currently sixteen species are known from Britain (Le Quesne & Payne, 1981).

On the 17th August 2002 a single specimen of a *Eupteryx* species was collected from a potted plant of *Salvia officinalis* L. from a garden in Ascot, Berkshire (SU927678). Since the specimen was a female, no certain identification was possible although the distinctive pattern of the vertex suggested the species was *E. decemnotata* Rey (Fig. 1a). Then on the 21st August a single male specimen was obtained from the same plant. The dissection of the aedeagus was consistent with that for *E. decemnotata* from the figure in Ribaut (1936). No other specimens were recorded until one male and three females were collected by Andrew Halstead from *Salvia* and other herbs at Wisley Gardens, Surrey during the week up to October 5th, which were confirmed as *E. decemnotata*. Further *Eupteryx* including specimens of *E. decemnotata* were collected there on the 14th October 2002. Other species found on *S. officinalis* at Wisley were *E. atropunctata* (Goeze), *E. florida* Ribaut, and *E. melissae* Curtis.

EUROPEAN DISTRIBUTION

Eupteryx decemnotata is a widespread species of the Mediterranean region of France and Italy (Ribaut, 1936; Nast, 1972, 1987) but has apparently started to spread northwards recently. In Germany it was first recorded in 1989 and has been found since in more than 20 localities all over the country (Nickel 2003). More recent records are from Switzerland, eastern Austria, Slovenia and parts of France outside the Mediterranean region (Günthart, 1987; della Giustina & Balasse, 1999; Holzinger & Seljak, 2001; Mühletaler, 2001; Nickel, 2003). This rapid range expansion might be partially related to the extensive and growing trade in garden herbs, which would explain the almost exclusive appearance of the species in synanthropic habitats and the lack of it in natural sites within the newly invaded

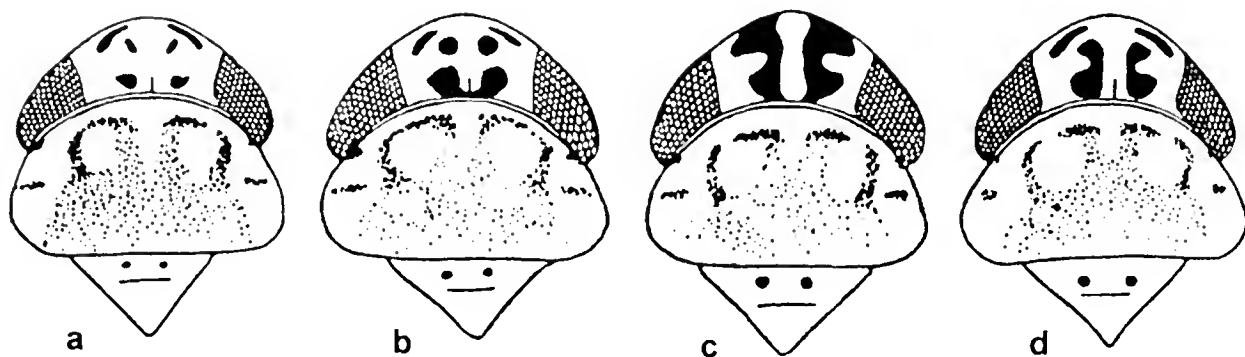


Fig. 1. *Eupteryx decemnotata*: head, pronotum and scutellum of (a) forma *typica*; (b) var. *Lombardi*; (c) var. *trochlearis*; (d) var. *litterata* (drawings adapted from Ribaut, 1936).

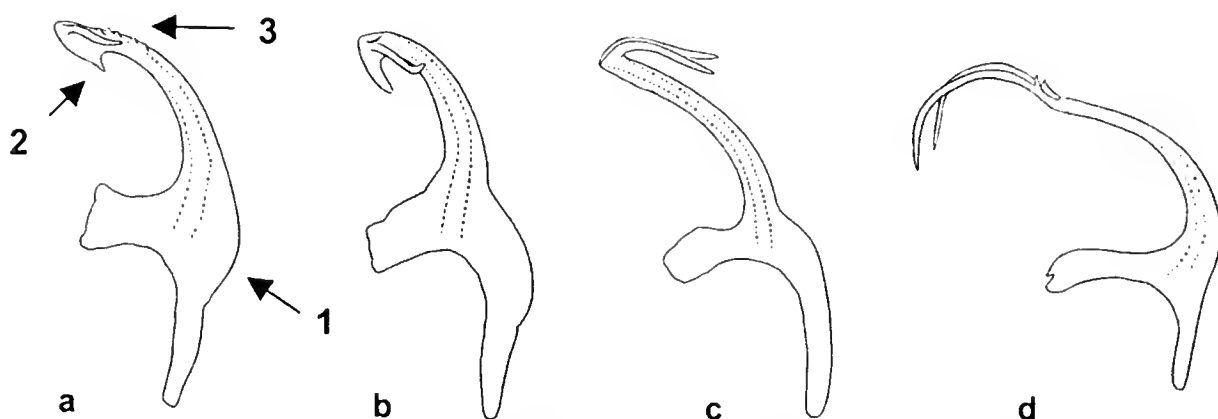


Fig. 2. Aedeagus of (a); *Eupteryx decemnotata* (b) *E. zelleri*; (c) *E. melissae*; (d) *E. florida* (drawings adapted from Ribaut, 1936).

range (Nickel & Remane, 2002). Another explanation for the range expansion could be ongoing climate change. Here milder winters might be even more important for a species of Mediterranean origin than warmer summers.

HOST PLANTS AND BIOLOGY

Various species of the Lamiaceae are named as host plants for this mesophyll-feeding species: *S. officinalis* L., *Rosmarinus officinalis* L., *Melissa officinalis* Linnaeus, *Nepeta* spp. and *Thymus* spp. (Vidano *et al.*, 1979; Scaltriti, 1989; Nickel & Remane, 2002). In Switzerland *E. decemnotata* is known as a pest on rosemary (*R. officinalis*) grown in plastic tunnels (Mittaz *et al.*, 2001). However, in Britain *E. decemnotata* has been found only on *S. officinalis* so far. It is possible that the species is already widespread in southern England and it is most likely to be found in synanthropic habitats such as gardens, parks and other urban green spaces due to its hostplant habitat. Previous work has suggested that the higher than average temperatures found within London can influence the abundance and life history of leafhoppers (Badmin, 1995). Higher temperatures in combination with a high density of suitable host plants make it likely that *E. decemnotata* is already well established within the London area.

IDENTIFICATION

Identification of *E. decemnotata* specimens using the key of Le Quesne & Payne (1981) leads to *E. melissae*. So it is important to distinguish *E. decemnotata* from

E. melissae and as well from the similar *E. florida*, which both can appear on the same host plants together with *E. decemnotata*. Although the typical pattern of the vertex of the *forma typica* (Fig. 1a) already gives a strong clue to the identification of the species, in some cases only the investigation of the aedeagus (Fig. 2) can confirm its identity, as other variations with different head patterns have been described from France (Ribaut, 1936) (Figs. 1b–d). However, these forms have not been found in Britain so far. The main characteristics of the aedeagus of *E. decemnotata* in comparison with closely related species (e.g. *E. melissae*, *E. florida*) are an evenly curved dorsal side (Fig. 2a1), a distinctive medial sharp hooklike structure pointing inwards from the distal end (Fig. 2a2) and lateral crested ridges towards the distal end (Fig. 2a3). It should be mentioned here that the aedeagus of *E. decemnotata* is very similar to that of *E. zelleri* Kirschbaum (Fig. 2b), a closely related species widespread in the Mediterranean region. The main difference between them is that the aedeagus of *E. zelleri* lacks the lateral crested ridges and has the medial hook formed in a more elongated and curved way.

ACKNOWLEDGEMENTS

The authors wish to thank Andrew Halstead (Royal Horticultural Society) for providing *Eupteryx* specimens from Wisley Gardens and Herbert Nickel for access to his manuscript in preparation.

REFERENCES

- Badmin, J.S. 1995. An overwintering population of *Zygia rubrovittata* (Lethierry) (Hem., Cicadellidae) in London. *Eutouologist's Monthly Magazine* **131**: 151–157.
- Giustina, W. della & Balasse, H. 1999. Gone with the wind: Homoptera Auchenorrhyncha collected by the French network of suction traps in 1994. *Marburger entomologische Publikationen* **3**: 7–42.
- Günthart, H. 1987. Für die Schweiz neue und wenig gesammelte Zikaden-Arten (Hom., Auchenorrhyncha), 2. Ergänzung. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* **60**: 83–105.
- Holzinger, W.E. & Seljak, G. 2001. New records of planthoppers and leafhoppers from Slovenia, with a checklist of hitherto recorded species (Hemiptera: Auchenorrhyncha). *Acta entomologica Slovenica* **9**: 39–66.
- Le Quesne, W.J. & K.R. Payne 1981. Cicadellidae (Typhlocybinae) with a checklist of the British Auchenorrhyncha (Hemiptera, Homoptera). *Handbook for the Identification of British Insects Vol. II, Part 2(c)*.
- Mittaz, C., Crettenand, Y., Carron, C.A., Rey, C. & Carlen, C. 2001. Essais de lutte contre les cicadelles en culture de romarin sous abri. (Control trials against cicadellids on rosemary under shelter). *Revue Suisse de Viticulture, Arboriculture et Horticulture*. **33**: 211–214.
- Mühlethaler, R. 2001. Untersuchungen zur Zikadenfauna der Lebensraumtypen von Basel. *Beiträge zur Zikadenkunde*. **4**: 11–32.
- Nast, J. 1972. Palaeartic Auchenorrhyncha (Homoptera). An annotated checklist. *Polish Scientific Publishers, Warszawa*: 550 pp.
- Nast, J. 1987. The Auchenorrhyncha (Homoptera) of Europe. *Annales zoologicae Warszawa* **40**: 535–662.
- Nickel, H. 2003. The leafhoppers and planthoppers of Germany (Hemiptera, Auchenorrhyncha): Patterns and strategies in a highly diverse group of phytophagous insects. Pensoft Series *Faunistica* No. 28, Sofia, Pensoft: 460 pp.
- Nickel, H. & Remane, R. 2002. Artenliste der Zikaden Deutschlands, mit Angabe von Nährpflanzen, Nahrungsbreite, Lebenszyklus, Areal und Gefährdung. *Beiträge zur Zikadenkunde*. **5**: 27–64.
- Ribaut, H. 1936. Homoptères Auchenorrhynques (I. Typhlocybidae). *Faune de France* **31**, 230 pp.

- Scaltriti, G.P. 1989. Gli insetti delle piante officinali. II nota. I fitofagi del *Thymus*, con particolare riferimento alle cocciniglie. (The insects of medicinal plants. Note II. The pests of *Thymus*, with particular reference to scale-insects.). *Redia* **72**: 567–579.
- Stewart, A.J.A. 1988. Patterns of host-plant utilization by leafhoppers in the genus *Eupteryx* (Hemiptera: Cicadellidae) in Britain. *Journal of Natural History* **22**: 357–379.
- Vidano, C., Arzone, A. & Cobben, R.H. (ed.). Typhlocybinae on officinal plants. Abstracts of Auchenorrhyncha Workshop 23–25th August 1978, Wageningen, the Netherlands. *Auchenorrhyncha Newsletter*: 27–28.

BOOK REVIEW

Biology of leaf beetles by P. Jolivet and K.K. Verma. (Intercept, Andover, Hampshire, 2002). 332 pp. Hardback £52.00. ISBN 1 898298 86 6.

It is always refreshing to see new publications dealing with the biology of Coleoptera since books on identification and distribution have prevailed in the past. Although not intended to be in any way an identification guide to Chrysomelidae, some useful notes and illustrations of the main subfamilies (Bruchinae are excluded) will help those not familiar with the family. Intended to be an introduction to the biology of leaf beetles, the book contains a vast amount of information on world Chrysomelidae, presented in a format that is both user friendly to access and interesting to read. However, the authors admit that it is almost impossible to cover every aspect of the subject in a work of this size.

Following the contents pages, a brief Preface and Foreword, the text is divided into 12 chapters entitled: Introduction, Classification, Palaeontology: food plants and evolution, Food and Feeding, Development stages, Ecology, Biogeography: Island faunas, Defence Strategies, Anatomy, Reproduction, Association with other organisms and Phylogeny of Subfamilies. Additional subheadings in bold type are listed in the Contents, but other paragraph subheadings are not listed here, although many topics can be found alphabetically in the Subject Index. The combination of Contents pages and multiple indices (Subject Index, Taxonomic Index – Animals and Taxonomic Index – Plants) provides a useful short-cut to locating information on almost every aspect of leaf beetle biology. There are several monochrome photographs and many line drawings, but no colour illustrations. There is also an extensive bibliography consisting of 46 pages of references.

Of course, in a work dealing with such a diverse group of beetles, there are bound to be details relating to species occurring in the British Isles that are not fully explained. For example, British species of *Lebia* (Coleoptera: Carabidae) are known to be parasitoids of chrysomelid pupae, but the only mention of this genus is in the section heading Predators where Lebiinae (Carabidae) are cited as being “specialists in the capture of the larvae and adults of chrysomelids on their host plants”. Doubtless the technical differences between the terms parasitoid and predator are well documented elsewhere, but this is not explained by the present authors.

Unfortunately, the last section of my review copy detached itself from the binding after less than an hour of use. Also the type on pages 307–332 is not printed squarely on the page. Nevertheless, it is hoped that this is exceptional and not typical of the entire print run, so it should not deter the serious student from purchasing this informative, if rather expensive book.

PETER HODGE

THE HOST PLANTS OF THE LIME LEAF-MINING SAWFLY, *PARNA TENELLA* (KLUG) (HYM: TENTHREDINIDAE) IN BRITAIN

A. J. HALSTEAD

RHS Garden, Wisley, Woking, Surrey GU23 6QB

ABSTRACT

A survey of three public gardens in England has shown that many native and introduced lime trees (*Tilia* spp., hybrids and cultivars) are host plants for the leaf-mining sawfly, *Parua teuella* (Klug) (Hymenoptera: Tenthredinidae). This survey extends the previously recorded host range for this insect in Britain.

INTRODUCTION

Parua teuella (Klug) was first confirmed as occurring in Britain in 1921 when Morice (1922) found adults flying round a lime tree in his garden in Woking, Surrey. Cameron (1882) had earlier referred to a mined *Tilia* × *europaea* L. leaf sent to him by H.T. Stainton but otherwise this insect was unknown to him. Benson's RES key (1952) describes it as "local, probably throughout England and S. Scotland, but not found north of Firth of Forth". He gave the host plants as *Tilia platyphyllos* Scop. and *T. cordata* Mill. *Parua teuella* is widely distributed in Europe across to Russia but is absent from the Mediterranean region (Liston, 1995). Liston gives the same host plants as Benson, with the addition of *Tilia* × *europaea*. These trees are native to Britain, although *Tilia* × *europaea* and *T. platyphyllos* are mainly found as planted trees (Preston *et al.*, 2002).

Parua tenella appears to have a single generation with adults emerging and laying eggs in May–June. A female was found by the author on a lime tree at Knaphill, Surrey on 4.vii.01, which is likely to be either a late emergence or perhaps evidence of a partial second generation. Eggs are laid singly in the leaf margin and the affected leaf margins roll upwards, presumably as a result of secretions produced by either the female during oviposition or by the newly hatched larva. On large leaves the rolling occurs at the basal end of the leaf but on small leaves the whole margin on one side curls. Some leaves have both margins curled upwards where eggs were laid on both edges of the leaf. The larva creates a blotch mine within the rolled leaf margin and in its final stages the mine can extend into the uncurled central area of the leaf. The larva's frass is deposited in rows and consists of black, flattened, elongate, rectangular pellets which can be up to 2mm long. Upward leaf curling on lime leaves can also be caused by certain cecidomyiid fly larvae (Redfern & Shirley, 2002) but these gall midge larvae do not cause any leaf mining. The sawfly larvae complete their feeding during June–early July and then go into the soil where they overwinter.

The Arborctum at the RHS Garden, Wisley (TQ0657) contains many *Tilia* species, hybrids and cultivars. A survey in 2001 showed that the lime leaf-mining sawfly was using a much wider range of limes than indicated by the literature. This survey was repeated in 2002 and the holders of National Plant Collections of *Tilia* for the National Council for the Conservation of Plants and Gardens (NCCPG) were also invited to check their trees for this insect. There are two National Collections of *Tilia* which are located at Thorp Perrow Arboretum, Bedale, North Yorkshire (SE2685) and Peasmarsh Place Arboretum, Rye, Sussex (TQ8821). The curators of these collections were sent samples of mined leaves to ensure they would recognise the type of damage caused by the sawfly.

RESULTS

The lime trees at Wisley Garden (WG) were surveyed for signs of leaf mining on 26.vi.01, and on 12 and 19.vi.02. The curators at Thorp Perrow Arboretum (TPA) and Peasmarsh Place Arboretum (PPA) surveyed their trees on 26 and 29.vi.02, respectively.

***Tilia* species, hybrids and cultivars with mined leaves**

T. americana L. WG 2001, WG 2002
T. americana L. 'Dentata' WG 2001, WG 2002
T. americana L. 'Redmond' WG 2001, WG 2002
T. chennoui Cheng PPA
T. chinensis Maxim. WG 2001, WG 2002
T. chingiana Hu & Cheng WG 2002
T. cordata Mill. WG 2001, WG 2002, TPA, PPA
T. cordata Mill. 'Greenspire' PPA
T. cordata Mill. 'Lico' WG 2002
T. cordata Mill. 'Rancho' WG 2002
T. cordata Mill. ssp. *sibirica* PPA
T. cordata Mill. 'Winter Orange' WG 2001, WG 2002
T. × europaea L. WG 2001, WG 2002
T. × europaea L. 'Pallida' WG 2001, WG 2002
T. × europaea L. 'Wratislaviensis' WG 2001, WG 2002
T. heterophylla Vent. WG 2001, WG 2002, TPA
T. heterophylla Vent. var. *michauxii* (Nutt.) WG 2002
T. mexicana Schldl. WG 2002
T. 'Moltkei' Spath ex Schneid. WG 2002
T. mongolica Maxim. WG 2001
T. oliveri Szysz. WG 2001, WG 2002
T. platyphyllos Scop. WG 2001, TPA
T. platyphyllos Scop. 'Aurea' WG 2001

The following limes at Wisley Garden had no signs of damage by the leaf miner in 2001 and 2002. Where these trees were also grown without symptoms at Peasmarsh Place Arboretum and/or Thorp Perrow Arboretum, this is indicated after the tree's name by PPA and/or TPA.

Tilia amurensis Rupr., PPA, TPA; *T. caroliniana* Mill., PPA; *T. dasystyla* Steven ssp. *caucasica* (V. Engl.) C. D. Pigott; *T. dasystyla* ssp. *dasystyla* Steven; *T. dasystyla* Steven ssp. *yelta* 291; *Tilia* 'Emerald Spire'; *T. henryana* Szysz., PPA, TPA; *T. henryana* Szysz. var. *subglabrata* Engler, PPA, TPA; *T. insularis* Nakai, PPA, TPA; *T. japonica* (Miq.) Simonkai, PPA, TPA; *T. kiusiana* Makino & Shirasawa, PPA, TPA; *T. koreana* Nakai, TPA; *T. orbicularis* (Carr.) Jouin, PPA; *T. petiolaris* DC., PPA, TPA; *T. platyphyllos* Scop. 'Laciniata', TPA; *T. tomentosa* Moench., PPA, TPA; *T. tuan* Szysz.

The following trees are not grown at Wisley Garden but were present in 2002 without symptoms in one or both of the National Collections of limes.

Tilia × euechlora K. Koch, PPA, TPA; *Tilia* 'Harold Hillier', TPA;
T. insularis × *mongolica* PPA; *T. insularis* × *maximowicziana* PPA;
T. intonsa Wils. Ex Rehd. & Wils., PPA, TPA; *T. laetivirens* Rehd. & Wils. TPA;
T. mandshurica Rupr. & Maxim., TPA;
T. maximowicziana Shirasawa, PPA, TPA; *T. uiqueliana* Maxim., PPA, TPA;

T. mongolica × *euchlora*, PPA; *T. neglecta* Spach., PPA, TPA; *T. nobilis* Rehd. & Wils., PPA; *T. taqueti* C. K. Schneider, PPA

DISCUSSION

Parna tenella is present in all three *Tilia* collections that have been surveyed but this insect seems to occur on a much wider range of *Tilia* spp. at Wisley Garden compared with Peasmarsh Place Arboretum or Thorp Perrow Arboretum. At the latter, the only host plant, other than those already recorded in the literature, was *T. heterophylla*. Peasmarsh Place added *T. chienmonii*; this is also grown at the other two gardens, where it was free of signs of leaf miner. It is, of course, possible to overlook the presence of this sawfly, especially if there are only a few mined leaves on a large tree. It is also possible that some of the trees on which *P. tenella* has not yet been recorded, may in time prove to be host plants. At Wisley Garden most of the species, hybrids and cultivars that were attacked in 2001 were also used by the sawfly in 2002 but there were some trees that appeared to be free of sawfly in one of the two years.

Although *P. tenella* is the only leaf-mining sawfly recorded on *Tilia* at Wisley Garden and elsewhere in Britain, there is a possibility that other species could occur. Worldwide there are three other *Parna* spp., of which at least two are associated with *Tilia* spp. Apart from *P. tenella*, there is *P. babai* Togashi and *P. kamijoi* Togashi, both of which occur in Japan. The last mentioned mines the foliage of *T. maximowicziana*. A new species, *Parna reseri* Liston, has been described by Liston (1993) and is associated with *T. cordata*. Unlike *P. tenella*, leaves mined by *P. reseri* do not have rolled margins (A. D. Liston, pers. com.). It has been found in Austria, France and Poland (Liston, 1995). Heidemaa & Viitasaari (1997) give additional locations in the Czech Republic, Estonia and Finland. The three non-British *Parna* spp. reproduce by thelytokous parthenogenesis and, as a consequence, males are absent or scarce. However, *P. tenella* has the normal haplo-diploid reproduction seen in Hymenoptera, giving rise to both males and females.

ACKNOWLEDGEMENTS

The author would like to thank the curators of the National Plant Collections of *Tilia* at Peasmarsh Place Arboretum and Thorp Perrow Arboretum for their help in this survey.

REFERENCES

- Benson, R. B. 1952. *Handbooks for the identification of British insects* Vol VI part 2 (b). Royal Entomological Society of London.
- Cameron, P. 1882. *A monograph of the British Hymenoptera* Vol 1. The Ray Society.
- Heidemaa, M. & Viitasaari, M. 1997. *Parna reseri*, a new leaf miner for the fauna of northern Europe (Hymenoptera, Tenthredinidae). *Proceedings of the Estonian Academy of Sciences* **46**: 191–192.
- Liston, A. D. 1993. A new European *Parna*, *reseri* n.sp. (Hymenoptera, Symphyta, Tenthredinidae). *Entomologische Berichte Luzern* **29**: 73–76.
- Liston, A. D. 1995. *Compendium of European sawflies*. Chalastos Forestry, Gottfrieding, Germany.
- Moriee, F. D. 1922. Two sawflies new to Britain—*Scolioneura tenella* Klug and *Pristiphora geniculata* Hartig. *Entomologist's Monthly Magazine* **58**: 197–200.
- Preston, C. D., Pearman, D. A. & Dines, T. D. (Eds) 2002. *New atlas of the British and Irish flora*. Oxford University Press.
- Redfern, M. & Shirley, P. 2002. *British plant galls*. Field Studies Council Publications.

SHORT COMMUNICATIONS

Noctuid moths (Lepidoptera: Noctuidae) probing at slug mucus. – While sugaring for moths at Ladycross Inclosure, New Forest, Hampshire (SU335030: VC11) on the night of 11–12.ix.2002, I noticed at 00.15 h a Dark Crimson Underwing moth *Catocala sponsa* (L.) probing a molluscan slime trail with its proboscis. The mollusc was no longer present, and the trail, about 1.5 m up the trunk of an oak tree, appeared somewhat dry. However, since the trail was in contact with an earlier-applied patch of sugar, the probing may have been stimulated simply by its proximity to or contamination with the sugaring mixture. The mixture, comprising black molasses, maple syrup, puréed over-ripe banana and a few drops of non-toxic amyl acetate (pentyl ethanoate), had on previous occasions proven attractive also to molluscs. The tree was one situated to the west of the main gravel ride and distinguishable by its numerous insect boreholes and slow persistent sap run.

At 00.25 h I observed a Svensson's Copper Underwing moth *Amphipyra berbera svenssoni* Fletcher directly probing the body of a Leopard slug *Limax maximus* L. The slug, about 1.5 m up the trunk of an oak to the east of the track, was oriented downwards and moving slowly over bark. The moth was perched alongside the slug and probing its lower right side and back. Slugs will climb trees to graze lichens and algae growing on the bark (Kerney *et al.*, 1979), but there was no slime trail to suggest an earlier visit to a sugar patch approximately 60 cm to the left. Its mucus is thus assumed to have been uncontaminated.

Some tropical Pyralidae, Geometridae and Noctuidae are known to frequent mammalian eye secretions for salts (Smith, 1973), while some British and European butterflies – notably the vanessids (Nymphalidae) and certain blues (Lycaenidae) – will settle in hot weather on bare human skin to imbibe sweat. However, apart from an instance of Middle-barred Minor *Oligia fasciuncula* (Haworth) imbibing saliva licked onto a car window by cows (Christmas, 2002), the probing of animal secretions by British moths appears to be unreported.

Tears and sweat are rich in sodium, which is the main attractant in dung (Jones, 2000; Wilson, 2001). Mucus comprises mainly water and mucin (Barnes, 1987) – a mucoprotein made up of many disaccharide units bound to a protein chain (Allaby, 1999), but as neither a literature search nor an enquiry to the British Museum (Natural History) located any reference to mucus salt content, sodium is assumed not to be present at a significant level.

The simplest explanation for the probing is that the moths were seeking moisture. In *L. maximus* the mucus is colourless and sticky on both the body and foot (Kerney *et al.*, 1979). However, shearing forces caused by land molluscs' body movements make the mucus locally less gelatinous and more like a solution (Barnes, 1987), which may account for the probing by the *A. b. svenssoni* of an active slug rather than its trail.

The importance of mucus as an energy source is unknown, but the sugars bound up in mucin are expected to be less immediately available for metabolism than the free sugars present in sap, honeydew, nectar or bramble fruits. Some Lepidoptera need proteins in their diet and about ten different amino acids can be obtained from nectar. However non-nectar feeders may need supplementary sources (Best, 2003). The fruit-piercing Malayan noctuid *Calyptra eustrigata* (Hampson), for instance, will penetrate human skin with its proboscis to imbibe blood (Smith, 1973; <http://www.earthlife.net/insects/lepidop2/html#3>).

Both *C. sponsa* and *A. b. svenssoni* were recorded earlier that evening at sugar, and both have been previously observed at the sap run (David Green, pers. com.). Their

use of these resources may depend on an ability to secrete small amounts of liquid from the tip of the proboscis, but its role in facilitating the ingestion of nutrients from drier mucus will require investigation.

Probing at mollusc mucus may be a relatively common moth behaviour, but overlooked on account of its nocturnal occurrence and the tendency of entomologists who use sugar to focus their attention on the bait. Placing wild or bred moths with slugs in cages under controlled experimental conditions – possibly using the Red Underwing *C. nupta* (L.) in place of the scarcer *C. sponsa* – could help confirm its prevalence and purpose, while a consideration of species' preferred known food sources could provide further insights. For example, a weakness for wine ropes – as displayed by late summer *Catocala* – might indicate a more general fruit-feeding habit, while species recorded at sugar would be expected to be better represented by honeydew or sap feeders than by those that typically frequent flowers.

I thank Dr Peter Mordan of the British Museum (Natural History) for assistance with a literature search. The work was carried out under New Forest Special Permissions – Insect Permit number 148/1999–2004. A copy of this report has been forwarded to Forest Enterprise. – LEONARD WINOKUR, Flat 3, Charles Court, 7 Darwin Road, Southampton, Hampshire SO15 5BS.

REFERENCES

- Allaby, M. 1999. *Oxford Dictionary of Zoology*. Oxford University Press, Oxford. 597 pp.
 Barnes, R. D. 1987. *Invertebrate Zoology, 5th Edition*. CBS College Publishing, London. 893 pp.
 Best, G. 2003. Artificial feeding of butterflies and moths. *Bulletin of the Amateur Entomologists' Society* **62**: 85–87.
 Christmas, S. 2002. Middle-barred minor *Oligia fascimacula* drinking cow saliva. *Atropos* **17**: 69–70.
 Jones, R. A. 2000. Chalkhill blue and small copper butterflies feeding on dung. *British Journal of Entomology and Natural History* **13**: 134–135.
 Kerney, M. P., Cameron, R. A. D. & Riley, G. 1979. *Land snails of Britain and North-west Europe*. Collins, London. 288 pp.
 Smith, K. G. V., ed. 1973. *Insects and other arthropods of medical importance*. British Museum (Natural History).
 Wilson, M. (ed.) 2001. Letters to the editor: Butterflies on dung. *British Journal of Entomology and Natural History* **14**: 101–102.

***Chrysolina americana* (L.) (Coleoptera: Chrysomelidae) reaches East Kent in 2004.** – Faversham residents were invited to bring along insects for identification to the public library as part of National Insect Week, 14–20 June 2004. In addition to the long list of stag beetle records from the town and surrounding villages of Boughton-under-Blean, Selling and North Street (best quote; one landed on my shoulder as I entered the parish church last week), I was presented with a jar containing two *Chrysolina americana* collected near the town centre on 20.vi.2004. This is the first record of this beetle in east Kent (VC15) known to the author. The beetle was reported as occurring in large numbers and visibly stripping a rosemary bush in the owner's garden. Andrew Salisbury has since informed me that there are records of *C. americana* from Bromley and West Wickham, West Kent in 2001 and post-National Insect Week from Shottenden, south of Faversham on 2nd July on the RHS database. – J.S. BADMIN, Coppice Place, Selling, Kent ME13 9RP.

FIELD MEETING REPORTS

Glen Maye and Dhoon Glen, Isle of Man, 19 July 2002

Leader: **Paul Waring**—From 17–20 July I had the pleasure of participating in a workshop on moth recording and conservation on the Isle of Man, organised and funded by the Department of Agriculture, Fisheries and Forestry (DAFF). This was attended by staff from DAFF, the Manx Museum of Natural History, the Isle of Man Moth Recorder Gordon Craine, the Warden of the Ayres National Nature Reserve and two local mothing enthusiasts. At the end of the event, on the evening of Friday 19 July, the leader held the first BENHS field meeting ever on the Isle of Man. This was also advertised to the Manx Wildlife Trust and local members of Butterfly Conservation. The local attendance was very good, consisting of 17 adults and 3 children, but included no BENHS members other than the leader. According to the BENHS Membership List there are no members resident on the Isle of Man. Several non-resident members expressed advance interest in the meeting, including two from Cheshire, but the logistics of travelling to the meeting, particularly on a Friday, ultimately proved too demanding.

The meeting was most enjoyable. It commenced with a lecture from the leader on moths, including the Isle of Man specialities, in the local Methodists' Hall at 20.00 h. This was illustrated by transparencies and with live caterpillars of several species. The caterpillars were much appreciated by the children. After tea and cakes we ventured down into Lower Glen Maye for a nocturnal caterpillar hunt and light-trapping (Fig. 1). The glen is a narrow, rocky and wooded gorge which runs down to the sea, with lots of lichens and mosses and a stream. The main trees and shrubs we saw and beat for larvae were Hornbeam *Carpinus betulus* L., which produced a late, fully grown larva of the Common Quaker *Orthosia cerasi* (Fab.) and the twig-like caterpillar of the Canary-shouldered Thorn *Emmonia alniaria* (L.), Rowan *Sorbus aucuparia* L., Wych Elm *Ulmus glabra* Hudson, Hazel *Corylus avellana* L., Common Whitebeam *Sorbus aria* (L.) agg., Honeysuckle *Lonicera periclymenum* L., Common Hawthorn *Crataegus monogyna* Jacq. and Southern Beech *Nothofagus obliqua* (Mirebel). None of the latter produced any larvae. A Robinson trap was set up in the turning circle amongst woodland at the bottom of the gorge. A Swallow-tailed Moth *Onrapteryx sambucaria* (L.) in fresh condition arrived soon after dark, which was much admired by all. A little later a Phoenix *Eulithis primata* (L.) in fine condition entered the trap amongst Silver-ground Carpets *Xanthorhoe montanata* (D.&S.) and other more widespread species. At 23.55 h a Gold Spangle *Autographa bractea* (D.&S.) arrived, followed by a Pinion-streaked Snout *Sclerankia costaestrigalis* (Steph.), Purple Clay *Diarsia brunnea* (D.&S.) and two Cloaked Carpet *Enphyia biangulata* (Haw.) in immaculate condition. We packed up the gear at 00.15 h because the children (and some of the older ones!) had to leave for their beds. The following morning some of us convened for the second part of the meeting, hosted by Les Kneale and his wife at Dhoon Glen on the east side of Man. Les had operated light-traps all night in this damp wooded gulley (Fig. 2), on cables from his house adjacent. We were able to examine a catch of eight Clouded Magpie *Abraxas sylvata* (Scop.) at one of the traps (some nights Les has recorded twenty or more), Welsh Wave *Venusia cambrica* Curtis, and Muslin Footman *Nudaria nudana* (L.), in addition to more Cloaked Carpet and Purple Clay. Then we had a splendid breakfast of bacon sandwiches in the garden while Gordon Craine and Les regaled us with tales of Manx mothing.

During the workshop, larvae of the Pod-lover *Hadena perplexa capsophila* (Dup.) (legally protected on Man) were filmed eating the seed-capsules both of Sea Campion *Silene maritima* (uniflora) Roth. and the related Rock Sea-Spurrey *Spergularia*



Fig. 1. Most of the attendance at the Glen Maye field meeting, Isle of Man, 19 July 2002.



Fig. 2. L–R: Gordon Craine, Les Kneale and Richard Selmon at one of the light-traps in Dhoon Glen, Isle of Man, 20 July 2002.

rupicola Leb. Adult Podlover were also on the wing and plentiful at light traps at Niarbyl by Dalby on the west coast and at Langness in the south. The Marbled Coronet *Hadena confusa* (Hufn.) was also found as larvae on Sea Campion, and as adults, but the nationally rarer Grey *Hadena caesia mananii* (Gregson) was not seen. Crescent Dart *Agrotis trux* (Hb.) were just emerging at Niarbyl, with two fresh

individuals in the light-trap on 21 July. A male Thrift Clearwing *Synansphecia muscaeformis* (Esper) came to our *hyal* pheromone lure amongst Thrift *Armeria maritima* (Mill.) on rocks in the splash zone at Fenella Beach by Peel Castle in sunshine at 13.45 h on 18 July. This male was most persistent in his attempts to copulate with the lure. A second brief sighting and approach minutes later may have been the same male returning and realising his mistake. A search for larvae of the Buttoned Snout *Hypena rostralis* (L.) at one of the few known localities for Hop *Humulus lupulus* L. on Man, at Bollaugh Glen, was unsuccessful, although the timing was appropriate because the leader had found part grown larvae in the hedgerows around Writtle College, Essex, and at Toft, Cambridgeshire, on 11 July. There is a single record of the Buttoned Snout from Man, in 1902 (G. Craine, pers. comm.). Several of the rare pyralid *Pyrausta sanguinalis* (L.) were seen on the wing visiting the flowers of Thyme *Thymus vulgaris* L. at the Ayres NNR at the north end of Man on 20 July. Tape loops of video footage shot during this event, including some of the above insects, have been supplied for public viewing at the Manx Museum.

The leader would like to thank Elizabeth Charter of DAFF for arranging his visit to the Isle of Man, the refreshments committee who organised the tea and cakes at the Methodists' Hall, Les Kneale and his wife for their light-trapping and hospitality, Gordon Craine for his insight into the status of moths on Man and everyone who supported the workshop and the field meeting.

Kindrogran Field Centre, Pitlochry, East Perthshire, 3 August 2002

Leader: **Paul Waring**—This was an overnight meeting for light-trappers, with the option of joining in on a four day field course of indoor lectures and outdoor sessions entitled “Moths: trapping, recording, conservation and management” with the leader as Tutor. The evening was calm, mild and cloudy, 18°C at dusk, 15°C minimum, ideal for moth-trapping. However, as darkness fell a light rain began and low cloud from the surrounding mountains reduced visibility considerably. The leader was joined by member Allan Jenkins, his wife Meral and two daughters Claire and Alison, both of whom are used to accompanying their parents on moth-trapping excursions, including many BENHS field meetings. The family was undeterred by the rain. Three light-traps were operated—a Skinner trap with a 125 W MB/U bulb, a Skinner trap fitted with a greenish 11 W fluorescent tube that the leader was trialling, and a professional model Heath trap fitted with the standard 6 W actinic tube. All three traps were operated in rather similar open grassy situations near woodland and caught respectively 150 macro-moths of 36 species, 119 macro-moths of 33 species and 93 macro-moths of 21 species. However, there were distinct differences in the relative frequency of some species which seemed to relate to features of the individual sites. In particular, the Dotted Clay *Xestia baja* (D.&S.) was much more numerous (38 individuals) in the 6 W actinic trap, which was the only one near a small stream, even though the total catch of moths in the trap was the smallest. The catches of the Dotted Clay at the 125 W Skinner and green 11 W light-traps were seven and 17 individuals respectively. I have previously noticed at other sites that this moth seems to favour lakesides, damp grassland and woodland.

Other noteworthy and characteristic moths recorded during the night included the Welsh Wave *Venusia cambrica* Curtis, Dotted Carpet *Alcis jubata* (Thunb.), Satin Beauty *Deileptenia ribeata* (Clerck), Dark Tussock *Dicallomera fascellina* (L.), Garden Tiger *Arctia caja* (L.), Plain Clay *Eugnorisma depuncta* (L.), Antler *Cerapteryx graminis* (L.), Scarce Silver *Syngrapha interrogationis* (L.), Gold Spangle *Autographa bractea* (D.&S.), Gold Spot *Phisia festucae* (L.) and Lempke's Gold Spot

P. putuani gracilis (Lempke). A number of Chimney Sweeper *Odezia atrata* (L.) were seen by day by the main river running by the Field Centre.

A Bedstraw Hawk-moth *Hyles gallii* (Rott.) and a greyish immigrant form of the Great Brocade *Eurois occulta* (L.) were recorded the following night and the Angle-striped Sallow *Enargia paleacea* (Esp.) and several Beech-green Carpet *Colostygia olivata* (D.&S.) on 5 August. The Gold Spangle became noticeably more numerous as the course continued, with about a dozen per light-trap by 6 August.

During the field course, attended by six people but not the Jenkins family, we inspected a stand of Broom *Cytisus scoparius* (L.) by Kinnaird Burn on the road from the Field Centre to Pitlochry on 4 August to demonstrate the value of beating roadside Broom to increase our knowledge of the distribution of the Scottish subspecies of the Broom-tip moth *Chesias rufa scotica* Rich., which is undoubtedly under-recorded in Scotland. A Broom-tip larva fell onto the beating tray almost immediately. Other noteworthy records included a part-grown larva of the Rannoch Brindled Beauty *Lycia lapponaria scotica* Harris beaten from Eared Willow *Salix aurita* L. growing amongst Bog Myrtle *Myrica gale* L. at Tomphadil later the same day and an extruded pupal case of the Welsh Clearwing *Synanthedon scoliaeforuiis* (Bork.) was found projecting from an old Downy Birch tree *Betula pubescens* Ehrh. at the Black Wood, Rannoch. At the Kindrogan Field Centre a Dotted Rustic *Rhyacia simulans* (Hufn.) was found outside one of the accommodation blocks on 5 August and was retained by the leader as a voucher specimen. A 15 minute search by eight individuals for larvae of the Slender-striped Rufous *Coenocalpe lapidata* (Hbn.) on Creeping Buttercup *Ranunculus repens* L. amongst rushes *Juncus* spp. at Tomphadil on 4 August was unsuccessful. A full list of the moths recorded during nightly light-trapping has been supplied to the Field Centre and the County Moth Recorder. The leader would like to thank the Kindrogan Field Centre for hosting this event.

Friday Street, Dorking, Surrey, 12 April 2003

Leader: **Colin Hart**. – This meeting was planned as part of National Moth Night 2003 to record one of the target species for that event, the Orange Upperwing *Jodia croceago* (D.&S.). The locality is properly called Wootton Common and is part of the Wootton Estate, although entomologists have called it by the name of a local hamlet for many years. The woodland is composed mainly of Sessile Oak *Quercus petraea* (M.) Liebl. with an extensive understorey of Bilberry *Vaccinium myrtillus* L. and has a unique fauna mainly associated with Bilberry. The wood was traditionally coppiced for tannin production and this resulted in short trees with branches that frequently touched the ground and retained their leaves over the winter. Unfortunately, no coppicing appears to have taken place over the last thirty years or so and the resulting woodland is thought to be less suitable for Orange Upperwing than previously. However, seven members and friends assembled in the car park and seventeen mercury vapour lights were set up over an area of half a mile or so across. In the event the conditions in the evening were cold and only 23 common species were recorded which did not include Orange Upperwing.

I would like to thank the Wootton Estate for permission to run this field meeting and to run lights on Wootton Common.

COLIN HART

Rushy Meadows SSSI, Kidlington, Oxfordshire, 12 April 2003

Leaders: **Paul Waring (PW) & Martin Townsend (MT)**. With this field meeting, on National Moth Night 2003, Rushy Meadows has been visited by the BENHS in each month from April to September, except May. All the meetings have been held jointly with the Moths of Oxfordshire Recording Scheme (MORS). A brief history, illustrated description of the site and account of the first visit, on 22 July 2000, was provided by Waring & Townsend (2001), and reports of subsequent meetings in Waring & Townsend (2003a & b) and Waring (2003).

The aim of this meeting was to record the moths flying in mid-April as well as to provide an enjoyable social occasion as befits National Moth Night. PW was particularly keen to see if we could find *Lithophane senibrunnea* (Haw.) (Tawny Pinion). A single individual of this moth was recorded on the site on 15 April 1983 during one of only three known previous moth recording visits to this site in the month of April (by PW). On 15 April 1983 three additional species had been recorded, *Orthosia incerta* (Hufn.) (Clouded Drab), *O. gothica* (L.) (Hebrew Character) and *O. cruda* (D.&S.) (Small Quaker). On 28 April 1983 only the Clouded Drab was seen. On a return visit on 20 April 1984, when the catkins of *Salix caprea* L. (Goat Willow) were recorded in bloom, *O. cerasi* (Fab.) (Common Quaker) and *Cerastis rubricosa* (D.&S.) (Red Chestnut) were added. This represented the sum total of knowledge of the moths in April on the site from 20 years ago. Additional aims of the meeting in 2003 were to beat for larvae, particularly those of the Sloe Pug *Pasiphila* (*Chloroclystis*) *chloerata* Mab. on Blackthorn *Prunus spinosa* L., which was in full flower (Fig. 1).

Nine of us arrived on site just before dusk on a calm, dry, clear and rather cool evening, during the course of which a three-quarter moon appeared. The dusk temperature was 10 °C. Two foxes were seen running across the site on arrival and a Muntjac *Muntiacus reevesii* (Ogilvy), a little later. There were no cattle present on this visit, but they had clearly succeeded in making some desired inroads into the over-rank sward. Nevertheless,



Figure 1. Beating Sloe blossom for larvae after dark at Rushy Meadows, 12 April 2003. Photo: P. Waring.

there were still many tall, standing dry haulms of *Filipendula ulmaria* (L.) (Meadows-weet), *Epilobium* spp. (willowherbs) and other plants over most of the site. The ground was absolutely hard and dry over the whole site except near the stream, such that it was possible to walk across the site in gym shoes. Rushes *Juncus* spp. remained frequent but we saw no sign of the King-cups *Caltha palustris* L. which used to flower near the bridge over the stream and in marshy places elsewhere on the site. Very encouragingly, a single Snipe *Gallinago gallinago* L. was flushed and at this season it was hopefully breeding, but no drumming was heard. PW had recorded snipe drumming over the site in mid-April 1977 and 1983 and recalled that at least two males were displaying on those visits. One aim of the recent light grazing by cattle, as part of the English Nature Management Agreement on the site, was to open up parts of the sward to encourage snipe to breed again after a period of years during which the site had been neglected and the sward had become uniformly tall and overly rank (Waring & Townsend, 2001). Snipe have always continued to visit the site in winter (John Brucker, pers. comm.).

Two Robinson-pattern light-traps were set up on the open meadows, one at the south end of the site near a blooming Goat Willow, on which the catkins were going over. The other trap was placed further along the stream, near the bridge in the centre of the site, but close to trees and shrubs growing along the stream banks. Two Robinson traps were placed under tall Ash trees *Fraxinus excelsior* L. growing in the hedgrows along the bridleway which runs from Kidlington to Begbroke and forms the southern boundary of the site. Ash is the larval foodplant of the Tawny Pinion. There was also a good range of other trees and shrubs here, particularly willows *Salix* spp., Common Hawthorn *Crataegus monogyna* Jacq. and Elder *Sambucus nigra* L.

The light-traps were operated from before dusk at 20.00 h until 23.00 h, by which time we could see our breath and the air temperature had fallen to 5 °C. Moth activity was sparse and only a couple of moths were seen on the wing. Both traps in the bridleway caught substantially more moths than the two in the open meadows (Table 1). The March Moth *Alsophila aescularia* (D.&S.) appears to be a first record for the site. The Double-striped Pug *Gymnoscelis rufifasciata* (Haw.) was first recorded on the field meeting on 23 September 2000.

The willow catkins on site were inspected at dusk and soon after, but no moths were seen on them and in most cases the catkins were probably too old to be attractive, though clouds of pollen were produced when some were beaten. Beating several bushes of flowering blackthorn after dark produced two larvae of the Brimstone moth *Opisthograptis luteolata* (L.) and one of the Mottled Umber *Erautis defoliaria* (Clerck), but none of the Sloe Pug. A pair of Mallard *Anas platyrhynchos* L. flew noisily about the site after dark and several small bats were seen and assumed to be one of the Pipistrelle *Pipistrellus* species. A very pleasant half an hour was spent

Table 1. Sites of the Robinson-pattern MV light-traps at Rushy Meadows, 12 April 2003

	Bridge	Sallow by stream	Ash by entrance gate	Ashes between gate and canal lock
Common Quaker	1	1	5	3
Red Chestnut	1	–	–	–
Hebrew Character	–	1	1	–
Clouded Drab	–	–	3	2
Small Quaker	–	–	1	1
Double-striped Pug	–	–	1	–
March Moth	–	–	–	1
Number of individuals	2	2	11	7
Number of species	2	2	5	4

sitting on folding chairs under the ash trees, catching up on news, partly lit by a moth trap but increasingly by moonlight.

The leaders would like to thank those who attended, the private land-owner and English Nature for permission to hold the meeting. It is hoped to return to the site in May 2004.

REFERENCES

- Waring, P., 2003. Field meeting report—15 June 2002. Rushy Meadows SSSI, Kidlington, Oxfordshire. *British Journal of Entomology & Natural History* **16**: 253–254.
- Waring, P. & Townsend, M. 2001. Field meeting report: Rushy Meadows SSSI, Kidlington, Oxfordshire, 22 July 2000. *British Journal of Entomology & Natural History* **14**: 59–64.
- 2003a. Field meeting report—23 September 2000. Rushy Meadows SSSI, Kidlington, Oxfordshire. *Ibid.* **16**: 51–53.
- 2003b. Field meeting report—18 August 2001. Rushy Meadows SSSI, Kidlington, Oxfordshire. *Ibid.* **16**: 66–67.

Quoditchmoore, Devon, 3 May 2003

Leader: **Roy McCormick**.—Seven of us arrived at Quoditchmoore near Ashwater around 20.00h to find John Randall, who had kindly obtained permission for access from the owners, opening the gate to let us all in. The evening weather could have been better, with temperatures only around 10°C, but thankfully we did not get the rain showers that were forecast. The lights were started, twelve in all, and the moths started to come in, but there was little about, so that by around midnight, when we finally departed the species list stood at 26, with the best of these: one *Adela reamurella* (L.); one *Plagodis pulveraria* (L.) (Barred Umber) and one *Peridea anceps* (Goeze) (Great Prominent). Though rather a dreadful night, the meeting was enjoyed by all those who attended.

Quoditchmoore, Devon, 21 June 2003

Leader: **Roy McCormick**.—John Randall was on hand to open the entrance gate at around 20.00h when people started to arrive including the site owner, Richard Douglas-Green, and we finished up with eleven members of various Societies and Groups. We began with a tour of the area hoping to flush out any early-flying species and to choose suitable sites to place our 15 light-traps.

The generators were started as dusk fell and the area must have looked as if the Martians had landed with so many lights glowing simultaneously. A couple of rounds of the lights were done, with people scrambling through the rough grassland, which although a bit boggy in places was nothing to worry about. The list started to build and we soon had around 70 species with one of our Biodiversity Action Plan (BAP) species *Mythinna turca* (L.) (Double Line) appearing in numbers, along with *Cybosia mesomella* (L.) (Four-dotted Footman) and *Mythinna pudorina* (D.&S.) (Striped Wainscot). Another round of the traps brought the total to 115. By around 01.00h with the temperature at 14°C there was little activity so we decided to call it a night. However one of our party stayed on through the night and increased the list to 132 species, with the best of these: one *Prays fraxinella* (Bjerk.) (Ash Bud Moth); at least two *Cryptoblabes bistriga* (Haw.); one *Tethea ocularis* (L.) (Figure of Eighty); one *Cyclophora albipunctata* (Hufn.) (Birch Mocha); one *Orthonama vittata* (Borkh.) (Oblique Carpet); two *Hydrelia sylvata* (D.&S.) (Waved Carpet), one of our BAP species; several *Cleorodes lichenaria* (Hufn.) (Brussels Lace); one *Sphinx ligustri* (L.) (Privet Hawk-moth); one *Arctia caja* (L.) (Garden Tiger); one *Naenia typica* (L.) (Gothic); one *Acronicta alni* (L.) (Alder Dagger) and two *Plusia festucae* (L.) (Gold Spot). A memorable night enjoyed by everyone. And the rain stayed away.

REPORTS OF THE AFFILIATED SOCIETIES

DIPTERISTS FORUM

The Dipterists Forum membership has risen slightly from 277 to 281 and the workshop and field meetings have been well attended. The income from membership and *Dipterists Digest* subscriptions is now only just meeting the expenditure. The membership subscription is to be increased by one pound, and the *Dipterists Digest* subscription by two pounds, making a total subscription of £15, to take effect from January 2005.

The Spring Workshop at Preston Montford was led by Stuart Ball, and devoted to data recording and transfer using the newly released version of Recorder (2002). Following the release of Recorder 2002 a start has been made on the backlog of crane-fly data although a large amount of data still remain to be entered.

The Summer Field Meeting took place from 11–18 July at Hengrave Hall, near Bury St Edmunds in Suffolk and was well attended. As in some previous years we were joined by a party of hymenopterists. After a series of relatively cold and damp Summer Meetings it was a pleasant change to be able to enjoy a week of unusually hot weather, even if at times it got too hot for the insects and sometimes also for the entomologists. Our accommodation at Hengrave Hall was the most impressive location for a field meeting that we have visited so far, being a Tudor mansion where Queen Elizabeth I was reputed to have stayed. The ground floor Long Gallery was used as laboratory space and we were well fed with home-made meals provided by the Hengrave Community in the panelled Dining Room. The Brecklands habitats provided a range of interesting local species and visits were also made to the Cambridgeshire fens, chalk grassland, woodlands and the Suffolk coast.

The Autumn Field Meeting was held at the Wiltshire College, Lackham from 15–19 October and provided an opportunity to reconnoitre sites for the 2004 Summer Field Meeting to be held at the same venue. After the hot and dry summer many of the sites visited were not as productive as expected for crane-flies and fungus gnats. Despite this a good range of species, including some normally found earlier in the year, were recorded and the Diptera total of over 400 species was probably the highest for an Autumn meeting. Reports of these meetings will be published subsequently in the *Dipterists Digest*.

Alan Stubbs and the Biological Records Centre are to be congratulated on the publication of the 'Dipterists Forum Starter Pack' containing 89 pages full of useful information. Since most of us are starters with some, or many groups of flies, it will be very useful to all members, and will also be available to support and encourage new recruits.

The Sciomyzidae Recording Scheme has been revived in the last *Bulletin* (56), and there has been a call-in of records with a view to the publication of draft keys and a provisional Atlas for 2004. Any photographs of species *in vivo* for use in the forthcoming publication would be welcomed.

Conservation is a theme that is recurring ever more frequently in Committee meetings. A sub-committee has been set up to consider a Dipterists Forum Policy towards the conservation of endangered Diptera and the post of Dipterists Forum Conservation Officer has been established.

There has been only one issue of *Dipterists Digest* published in 2003 due to insufficient material being submitted in time, but the delayed second issue is now with the printers. It is expected to get back on schedule of two issues within the calendar year with the 2004 volume. There is now a print run of 500 copies to allow

for an increase in distribution both here and abroad. It is hoped to extend this by sending flyers to overseas organisations, museums and libraries, and to meetings, once a new Publicity Officer is in post.

KEN MERRIFIELD

BEES, WASPS AND ANTS RECORDING SOCIETY (BWARS)

Membership of the Society fell slightly in 2003 and new memberships ran at only half the rate of the previous year. Nevertheless, the Society's financial resources remained at the same level and, in addition to day-to-day expenses, funds were invested in a reprint of Michael Archer's *British Potter and Mason Wasps*; the first print run of which sold out almost overnight.

The Society's annual weekend, traditionally held in the south of England, was held at Liverpool Museum – by all accounts an ideal venue. Approximately 20 members attended, many of them travelling up from the south and the hoped-for-rush of northern members failed to materialise. Despite the apparent lack of interest, it is hoped to hold the meeting there again in two years' time.

In addition to the AGM, workshops were held on members of the *Chrysis ignita* (L.) group and on the two species pairs in black *Lasius*. Talks were given on such diverse subjects as recording aculeates in Warwickshire as a basis for a county atlas, the history of the aculeate collections at Liverpool Museum and collecting on the island of Kos. These weekends are an excellent opportunity to meet fellow hymenopterists and BENHS, as well as BWARS members are welcome to attend. The 2004 weekend will revert to Dinton Pastures.

Work continued towards a provisional atlas of aculeates; a task that is lightened by splitting it into parts that are published biannually. No part was produced this year but draft accounts and maps for Part 5 appeared in the newsletter, allowing the full membership to contribute and comment prior to its publication in 2004. The Society is, of course, primarily a recording society and, in addition to the atlases, discussions were held on making BWARS data available on the National Biodiversity Network/NBN Gateway. During the year, BWARS data were supplied to DEFRA for work on bumblebees and to Dr M. Kuhlmann, a continental worker currently revising the bee genus *Colletes*.

A further role of the Society will be in revising the Red Data Book and National scarcity statuses of aculeates, a task last undertaken over ten years ago since when some major changes in the distribution and frequency of aculeates have occurred.

GRAHAM A. COLLINS

BRITISH MYRIAPOD AND ISOPOD GROUP

Currently our mailing list stands at 204. While the majority are British there are a number of other countries represented both European and worldwide. In 2003 our annual field meeting was held in Cheshire just after Easter. Normally the meetings take the form of two or three days' field collecting with various activities including talks, identification workshops and meetings taking place in the evenings. Last year was a little different, however, as we combined it with a seminar at Manchester Museum to commemorate the lives of E. H. Eason and J. G. Blower who both died in recent years. The seminar was attended by over 70 people including colleagues from Germany, Hungary, France, Greece, the Czech Republic and Austria. Nine presentations were given and there was a good display of posters too. Financial

support was given by the British Ecological Society and the Linnean Society for which we were most grateful. The *Bulletin* for 2003 was the edited proceedings of the seminar in Manchester and was published in December. As usual, two newsletters were produced during 2003 and were mailed to those on our list by the Centre for Ecology and Hydrology at Monks Wood.

We have just two committee meetings each year, one during the field weekend and, for the last two years, we have held the other at Dinton Pastures which has proved a very suitable venue for us. We are making progress with putting together our library so that it can be housed at Dinton Pastures and we are starting to think about how we could store a reference collection there too.

As mentioned above, our main event of the year is our annual field meeting which is normally held from the Thursday evening to Sunday morning of the weekend immediately after Easter (this is a good time of the year to find our animals as during the summer it is usually too hot and dry). We would welcome members of the BENHS along to the meetings at any time.

HELEN READ

BOOK REVIEW

Minibeasts: An identification guide. By Peter Smithers, illustrated by John Walters. 36pp. (Newton Abbott, J Walters, 2004). Softback. £6.50. ISBN 0 954 02562 8.

This book is ideal for youngsters aged 8–12 who want to identify for themselves what type of invertebrate they have collected. Simplified keys to order level, with lots of illustrations and photographs fill most of the pages. The author provides a sensible list of books for further reading together with details of how to join The Bug Club. Ideally copies of this book should be on sale at all Wildlife Trust centres throughout the UK. The book certainly proved a success with youngsters during National Insect Week. My only quibble is over the use of the term “minibeasts” which the author informs me is an advance on “creepy crawlies”. Several older entomologists expressed their objection to the term during The Week, but if English Nature in its Magazine now classifies animals as being mammals, birds and minibeasts, then this is the future.

JOHN BADMIN

THE MAITLAND EMMET BENHS RESEARCH FUND

In 2001 the family of the late Lt. Col. Maitland Emmet, a distinguished amateur microlepidopterist, made a generous donation to the Society's Research Fund in his memory. As a result the Society has renamed its Research Fund the Maitland Emmet BENHS Research Fund. The Society is very grateful to the Emmet family for their generosity.

The Society invites applications for grants, from the Maitland Emmet Research Fund, to be awarded in December 2004. Awards are open to both members and non-members of the BENHS and will be made to support research on non-marine arthropods, with reference to the British fauna, and with preference given to insects, arachnids, myriapods and isopods. Grants will be given for:

- (a) the assistance of fieldwork on non-marine arthropods with relevance to their conservation,
- (b) work leading to the production of identification guides and distribution lists, but not the cost of publishing such items.

Travel to examine museum collections and to consult taxonomic specialists would be included. The work and travel is not limited to the British Isles but must have a demonstrable relevance to the British arthropod fauna. Individual grants are unlikely to exceed £500.

Preference will be given to work with a clear final objective (e.g., leading to publication or the production of a habitat management plan). Work on leaf miners and gall forming insects should be submitted to the Society's Professor Hering Memorial Research Fund.

Applicants should send seven copies, if possible, of their plan of work, the precise objectives, the amount for which an award is requested and a brief statement outlining their experience in this area of work, to **Dr J. Muggleton, 32 Penton Road, Staines, Middx, TW18 2LD**, as soon as possible and **not later than 30 September 2004**. Further information may be obtained from the same address (email: jmuggleton@compuserve.com).

THE PROFESSOR HERING MEMORIAL RESEARCH FUND

The British Entomological and Natural History Society announces that awards may be made from this Fund for the promotion of entomological research with particular emphasis on:

- (a) leaf-miners
- (b) Diptera, particularly Tephritidae and Agromyzidae
- (c) Lepidoptera, particularly Microlepidoptera
- (d) general entomology

in the above order of preference having regard to the suitability of applicants and the plan of work proposed.

Awards may be made to assist travelling and other expenses necessary for fieldwork, for the study of collections, for attendance at conferences, or, exceptionally, for the costs of publication of finished work. In total they are unlikely to exceed £1000 in the year 2004.

Applicants should send seven copies, if possible, of a statement of their qualifications, of their plan of work, and of the precise objectives and amount for which an award is sought, to **Dr M. J. Scoble, Department of Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD, UK** as soon as possible and **not later than 30 September 2004**.

Applications are also invited from persons wishing to borrow the Wild M3 Stereomicroscope and fibre optics illuminator bequeathed to the Fund by the late Edward Pelham-Clinton, 10th Duke of Newcastle. Loan of this equipment will be made for a period of up to six months in the first instance.

BENHS FIELD MEETINGS PROGRAMME 2004

May 1	Watermeet, Exmoor, Devon. MV. R. McCormick
May 15	Hatfield Forest NNR, Essex. Stuart Warrington
May 21	Rushby Meadows, Oxon. MV. P. Waring & Martin Townsend
May 22	Bernwood Forest, Oxon./Bucks. Paul Waring, Martin Albertini & Martin Townsend
May 22	Dinton Pastures, Berks. MV. David Wedd
May 29	Carngafallt, Breconshire. MV. Mark Telfer & Graeme Lyons
May 29	Quoditchmoore, Devon. MV. Roy McCormick & Barry Henwood
May 29	Summer Dipterists Field Meeting, Wilts. Peter Chandler
-June 5	
June 1-2	Saltfleetby-Theddlethorpe Dunes NNR, Lincs. MV. Paul Waring
June 5	Glaphorn Pastures, Short & Southwick Woods, Northants. G. Boyd
June 13	Chetney Marshes, Kent. John Badmin
June 19	Northwick Rd, Canvey Island, Essex. M. Shardlow & Don Down
June 19	Wyre Forest, Worcs. MV. Dave Grundy
June 19	Wood of Cree RSPB Reserve, Dumfries. J. Cadbury & M. Telfer
June 25-27	Scottish Entomologists' Gathering based at Grianlarich. G. Foster
June 26	Otmoor, near Beckley, Oxon. MV. P. Waring, M. Townsend & Whitecross Green Wood, Bucks, MV. C/o M. Albertini
June 26	Whiddon Deer Park, Devon. R. McCormick & B. Henwood
June 27	Castor Hanglands, Northants. P. Waring
June 30	Askham Bog NNR, Yorks. Roy Crossley & Harry Beaumont
July 1	Barnham Cross Common, Norfolk. P. Waring & A. Musgrove
July 3	Bedgebury Pinetum, Kent. MV. Martin Newcombe & Chris Reynolds
July 10	Hittisleigh Wood, Devon. MV. Roy McCormick & Barry Heenwood
July 17	London Zoo, Regents Park, London. MV. Paul Waring
July 24	Lakenheath Fen RSPB Reserve, Suffolk. M. Telfer & G. Lyons
July 31	Stoborough Heath RSPB Reserve, Wareham, Dorset. MV. A. Schofield & J. Cadbury
July 31	Quoditchmoore, Devon. MV. R. McCormick & B. Henwood
July 31	Newborough Forest, Anglesey. Doug Murray
Aug 6	Nash Wood & Offa's Dyke Centre, Knighton, Powys. Kelly Thomas
Aug 12	Coppice Wood, Riseley, Beds. MV. Paul Waring
Aug 15	Mannington, E. Norfolk. Rex & Barbara Hancy
Aug 21	Worley Hill Reserve, Street, Somerset. J. Boyd & R. Williams
Aug 28	Nomansland Common, Herts. Colin Plant
Aug 29	Hawthorn Dene, Beck & Hive, Peterlee, Durham. Steve Robbins
Sept 4	Roch Valley, Rochdale, S. Lancs. Norman & Alan Bamforth (BPGS)
Sept 10	Sand Point & Bay, N. Somerset. Ray Barnett & Martin Evans
Sept 18	North Downs near Maidstone, Kent. Eric Philp
Sept 19	Collyweston Wood, Stamford, Northants. M. Frankum & C. Gardiner
Sept 26	Gutner Peninsula, Hayling Island, S. Hants. John Langmaid
Oct 9	Parkhurst Forest, Isle of Wight. David Biggs & Bill Shepard
Oct 30	Wentwood Forest & Penhow Village Hall, Monmouth. Kelly Thomas

BRITISH JOURNAL OF ENTOMOLOGY AND NATURAL HISTORY

VOLUME 17, PART 2, JULY 2004

ARTICLES

- 101 Variation in *Euphydryas cyathia* (D.&S.) in the Alpes Maritime, Southern France.
T. G. HOWARTH
- 103 *Rodolia cardinalis* (Mulsant), The Vedalia ladybird (Coleoptera: Coccinellidae) feeding on *Icerya purchasi* Maskell, cottony cushion scale (Hemiptera: Margarodidae) in London gardens. A. SALISBURY & R. G. BOOTH
- 105 *Icerya purchasi* Maskell, cottony cushion scale (Hemiptera: Margarodidae), causing damage to ornamental plants growing outdoors in London. G. W. WATSON & C. P. MALUMPHY
- 111 *Eupteryx decemnotata* Rey (Hemiptera Cicadellidae) new to Britain.
N. MACZEY & M. R. WILSON
- 115 The host plants of the lime leaf-mining sawfly, *Parna tenella* (Klug) (Hymenoptera: Tenthredinidae) in Britain. A. J. HALSTEAD

SHORT COMMUNICATIONS

- 76 *Eupicoris baerenspruigi* (Dohrn) (Hem: Reduviidae), *Agrilus biguttatus* F. (Col: Buprestidae) and *Rhinocyllus conicus* Frölich (Col: Curculionidae) in Gloucestershire. J. DENTON
- 76 *Plectrocnemia geniculata* McLachlan (Trichoptera: Polycentropodidae) in Surrey. J. DENTON
- 110 The Black Bog Ant *Formica caudida* (Smith) (Hymenoptera: Formicidae) in Surrey.
J. DENTON & G. A. COLLINS
- 110 A recent record of *Hippodamia 13-punctata* (L.) (Coleoptera: Coccinellidae) from Dorset.
S. J. FALK
- 118 Noctuid moths (Lepidoptera: Noctuidae) probing at slug mucus. L. WINOKUR
- 119 *Chrysolina americana* (L.) (Coleoptera: Chrysomelidae) reaches East Kent in 2004.
J. S. BADMIN

PROCEEDINGS & TRANSACTIONS / SOCIETY NEWS

- 57 Officers' Reports for 2003
- 73 The 2003 Presidential Address – Part 1. Report. B. HARLEY
- 77 The 2003 Presidential Address – Part 2: Lovell Reeve (1814–1865) and his company.
B. HARLEY
- 120 Field Meeting Reports
- 127 Reports of the Affiliated Societies

REVIEWS

- 72 *Close-up* by C. Jones & A. Ball. J. S. BADMIN
- 72 *Wildlife Garden at the Natural History Museum* by R. Vickery. J. S. BADMIN
- 100 *Shieldbugs of Surrey* by R. D. Hawkins. L. CLEMONS
- 114 *Biology of leaf beetles* by P. Jolivet & K. K. Verma. P. HODGE
- 129 *Minibeasts: An identification guide* by P. Smithers. J. S. BADMIN

ANNOUNCEMENTS

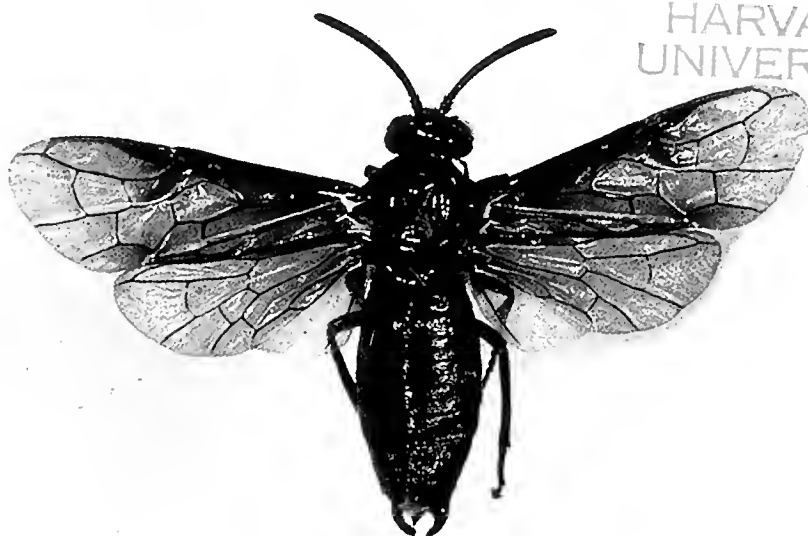
- 130 The Maitland Emmet BENHS Research Fund
- 130 The Professor Hering Memorial Research Fund
- ibc BENHS Field Meetings Programme 2004

BRITISH JOURNAL OF ENTOMOLOGY AND NATURAL HISTORY

MOF
LIBRARY

JAN 3 2005

HARVARD
UNIVERSITY



BRITISH JOURNAL OF ENTOMOLOGY AND NATURAL HISTORY

Published by the British Entomological and Natural History Society
and incorporating its Proceedings and Transactions

Editor: J. S. Badmin, Ecology Group, Canterbury Christ Church College, The Mount, Stodmarsh Road, Canterbury, Kent CT3 4AQ (Tel/Fax: 01227 479628) email: jsb5@cant.ac.uk

Associate Editor: M. Wilson, Ph.D., F.R.E.S., F.L.S. Department of Biodiversity & Systematic Biology, National Museums & Galleries of Wales, Cardiff CF10 3NP. (Tel: 02920 573263) email: Mike.Wilson@nmgw.ac.uk

Editorial Committee:

D. J. L. Agassiz, M.A., Ph.D., F.R.E.S.

R. D. G. Barrington, B.Sc.

P. J. Chandler, B.Sc., F.R.E.S.

B. Goater, B.Sc., M.I.Biol.

A. J. Halstead, M.Sc., F.R.E.S.

R. D. Hawkins, M.A.

P. J. Hodge

T. G. Howarth, B.E.M., F.R.E.S.

I. F. G. McLean, Ph.D., F.R.E.S.

M. J. Simmons, M.Sc.

P. A. Sokoloff, M.Sc., C.Biol., M.I.Biol., F.R.E.S.

T. R. E. Southwood, K.B., D.Sc., F.R.E.S.

R. W. J. Uffen, M.Sc., F.R.E.S.

B. K. West, B.Ed.

British Journal of Entomology and Natural History is published by the British Entomological and Natural History Society, Dinton Pastures Country Park, Davis Street, Hurst, Reading, Berkshire RG10 0TH, UK. Tel: 01189-321402. The Journal is distributed free to BENHS members.

© 2004 British Entomological and Natural History Society.

Typeset by Dobbie Typesetting Limited, Tavistock, Devon.

Printed in England by Henry Ling Ltd, Dorchester, Dorset.

BRITISH ENTOMOLOGICAL AND NATURAL HISTORY SOCIETY

Registered charity number: 213149

Meetings of the Society are held regularly in London, at the rooms of the Royal Entomological Society, 41 Queen's Gate, London SW7 and the well-known ANNUAL EXHIBITION is planned for Saturday 13 November at Imperial College, London SW7. Frequent Field Meetings are held at weekends in the summer. Visitors are welcome at all meetings. The current Programme Card can be obtained on application to the Secretary, J. Muggleton, at the address given below.

The Society maintains a library and invertebrate collections at its headquarters in Dinton Pastures, which are open to members on various advertised days each month, telephone 01189-321402 for the latest meeting news. The Society's web site is: <http://www.BENHS.org.uk>

Applications for membership to the Membership Secretary: A. Godfrey, 90 Bence Lane, Darton, Barnsley, South Yorkshire S75 5DA.

Subscriptions and changes of address to the Membership Secretary: R. D. Hawkins, 30d Meadowcroft Close, Horley, Surrey RH6 9EL.

Non-arrival of the Journal, faulty copies or other problems arising from distribution of the Journal or notices to the **Distribution Secretary:** D. Young, 22 Wordsworth Close, Saxmundham, Suffolk IP17 1WF. Tel: 01728 603568.

Orders for books and back numbers of the Journal and Proceedings to the Sales Secretary: G. Boyd, 91 Fullingdale Road, Northampton NN3 2PZ. Tel: 01604 410056.

General Enquiries to the Secretary: J. Muggleton, 30 Penton Road, Staines, Middlesex TW18 2LD. Tel: 01784-464537. email: jmuggleton@compuserve.com

Society Website: www.benhs.org.uk for recent information on the Society's meetings programme and general society details.

Cover photograph: Berberis sawfly, *Arge berberidis* Schrank, new to Britain. Photo: R. Jones.

NOTE: The Editor invites submission of photographs for black and white reproduction on the front covers of the journal. The subject matter is open, with an emphasis on aesthetic value rather than scientific novelty. Submissions can be in the form of colour or black and white prints or colour transparencies.

BERBERIS SAWFLY, *ARGE BERBERIDIS* SCHRANK (HYMENOPTERA: ARGIDAE), A PEST NEW TO BRITAIN

A. J. HALSTEAD

The Royal Horticultural Society's Garden, Wisley, Woking, Surrey, GU23 6QB

ABSTRACT

Berberis sawfly, *Arge berberidis* Schrank, has larvae that cause severe defoliation on some *Berberis* and *Mahonia* spp. In Britain, it was first recorded in Essex, England in 2002 but had probably become established in or before 2000. It is now known to be present in the vice counties of Berkshire, Buckinghamshire, Hertfordshire, Middlesex, South Essex and Surrey. Information is given on the biology and identification of this insect.

INTRODUCTION

Arge berberidis Schrank is widely distributed in Europe. Liston (1995) records it from Austria, Belgium, Bulgaria, Czechoslovakia, Denmark, France, Germany, Holland, Hungary, Latvia, Luxembourg, Poland, Romania, Russia, Spain, Switzerland and Ukraine. He gives the host plants as *Berberis vulgaris* L., *B. thumbergii* DC. and *Mahonia* spp. Muche (1977) gives the distribution as Central and South Europe (including the Crimea), Caucasus, Transcaucasus, Central Asia and Siberia. There is some evidence that *A. berberidis* has extended its range northwards in recent years. Until 1990 it was considered a rare insect in Holland but since 1996 it has been a significant pest in the province of Limburg and the Wageningen area (Frankenhuyzen & Blommers, 2000).

OCCURRENCE IN UK

The presence of this sawfly in Britain was established when a female was sent for identification to the Entomology section at the Royal Horticultural Society Garden, Wisley. The specimen came from a private garden at Church Langley, Essex where a plant of *Berberis thumbergii* f. *atropurpurea* (Chenault) had suffered bouts of defoliation by 'caterpillars' since 2000. The discovery was reported to the Plant Health and Seeds Inspectorate but the pest was found to be too widespread in gardens for eradication to be feasible. Other reports of sawfly larvae defoliating *Berberis* were received at Wisley Garden during 2002 from Hertfordshire, Middlesex, Berkshire, Buckinghamshire and Surrey. Several of these records referred to damage occurring from 2000 onwards. It is likely that *A. berberidis* was imported into Britain with infested nursery stock in 2000 or the late 1990s.

The vice counties and localities for *A. berberidis* reported to the Royal Horticultural Society up to the end of October 2003 are:

Berkshire: Holyport, near Maidenhead; Maidenhead; Reading.

Buckinghamshire: Beaconsfield; Chalfont St Giles; Fenny Stratford; Great Missenden.

Hertfordshire: Cuffley; Lemsford Village; Royston; Stevenage; Tring; Welwyn; Welwyn Garden City.

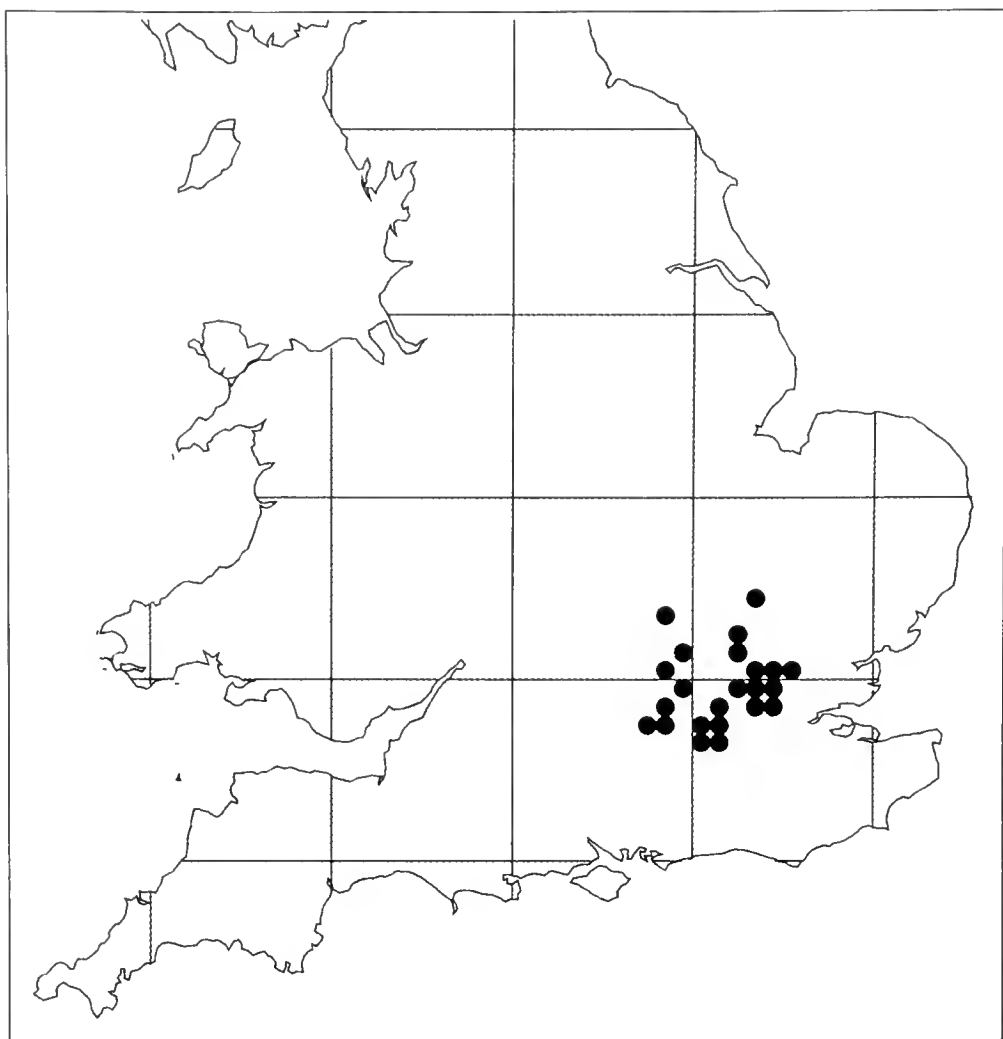


Fig. 1 Distribution map of *Arge berberidis* in England (prepared with DMAP program)

Middlesex: Mill Hill; Winchmore Hill; nr Alexandra Park; North Finchley; Teddington; Hayes; Muswell Hill; Ruislip; Ealing; Hounslow; Hackney; Hampton.
 North Essex: Tylers Green, near North Weald.
 South Essex: Church Langley, near Harlow; Seven Kings; Loughton.
 Surrey: North Sheen; Thames Ditton; Weybridge.

The distribution of these records is shown in Figure 1. All of the above records refer to infestations on *Berberis*, except at Cuffley, Hertfordshire where damage occurred on an unspecified *Mahonia*.

BIOLOGY

Some observations were made on the biology of this sawfly. Eggs are deposited in batches of up to seven near the leaf margins on *Berberis thunbergii* leaves. When presented with young leaves of *Mahonia aquifolium* (Pursh) Nutt., females readily used these for laying eggs. Eggs are inserted under the epidermis, usually on the underside of the leaf, where they form small raised areas. The elongate eggs are visible through the epidermis. Unmated females can lay viable eggs but these eggs produce only male adults. The eggs hatch after 7–8 days and the larvae begin feeding gregariously from the leaf margins. First instar larvae have black heads with whitish semi-transparent bodies that show the gut contents. The body is marked with black

dots but lacks the yellow markings of the older larvae. After 7 days the second instar is reached and these larvae have large pale yellow blotches on the upper part of their bodies; these markings are more pronounced on the abdomen than the thorax.

Final instar larvae are 18 mm long with black heads and creamy white bodies. The true legs are greyish black and darkest on the femora. The body has a double row of small black dots down the dorsal line with a large yellow blotch on either side on each segment. The sides of the body have many small black spots bearing short upright black bristles. There is a row of larger black spots along the lower lateral part of the body. The dorsal surface of the anal segment is black but the ventral surface is yellow. The first thoracic segment is also mostly yellow down the lateral area.

When fully fed the larvae moult to the pre-pupal form and go down into the soil where they pupate within silk cocoons. Larvae kept at room temperature (15–23 °C) completed their feeding in 19 days and adults began emerging 18 days later. In Holland a natural infestation was watched throughout the late spring to early autumn of 1998 by Frankenhuyzen & Blommers (2000). They found that adult sawflies began emerging in late April with a peak in early May. Larvae of the first generation were present from mid May–June. Second generation adults emerged in early July–August, with more larval activity in August–September. They also noted that there can be a partial third generation of larvae in October. The Royston, Hertfordshire record was of first instar larvae on *B. thunbergii* f. *atropurpurea* seen on 12.x.03. This is a deciduous plant and it is possible it may shed its leaves before the third generation larvae can complete their feeding.

IDENTIFICATION

The adult female sawfly is 9 mm long (frontispiece); the males are 7 mm long. The head and body is shiny bluish-black; the antennae and legs are also black. The wingspan is 14–15 mm and the wings are infuseate, especially at the basal and costal parts of the forewings. The female has a pale yellow vesicle which can be distended from the anal segment above the saw-sheath. In dry specimens this can be seen as a white membranous area. *Arge berberidis* would key out in the Royal Entomological Society's keys (Benson, 1951; Quinland & Gauld, 1981) as *Arge nigripes* Retzius. *Arge berberidis* is slightly larger and has darker wings but it is necessary to look at the genitalia to separate these species. Females are readily distinguished because of the very different shape of the saw-sheath (Fig. 2). The saw in both species has barely perceptible teeth. The saw of *A. nigripes* is shorter and thicker with a rounded tip, and is uniformly brown. That of *A. berberidis* has golden brown and white banding and is longer and thinner with a more pointed tip. Males can be separated by the shape of the penis valves (Fig. 3), which are most easily seen by extracting them from fresh specimens. Those of *A. berberidis* have a more rounded tip and a shorter spur on the dorsal surface.

The two versions of the RES sawfly key covering the Argidae use similar wording but in Benson's key, *nigripes* keys out at couplet 8, whereas the more recent key by Quinland & Gauld has it at couplet 7. Note that there is an error in the latter key at couplet 1; species with metallic blue, green, bronze or black (not yellow) abdomens go on to couplet 5, not 6. To incorporate *A. berberidis* into the Quinland & Gauld version of the key, the following addition should be made:

- 5
- Wings more or less strongly infuscated with a black stigma; pubescence on face and mesopleurae reddish-black, legs entirely black or reddish-black 6

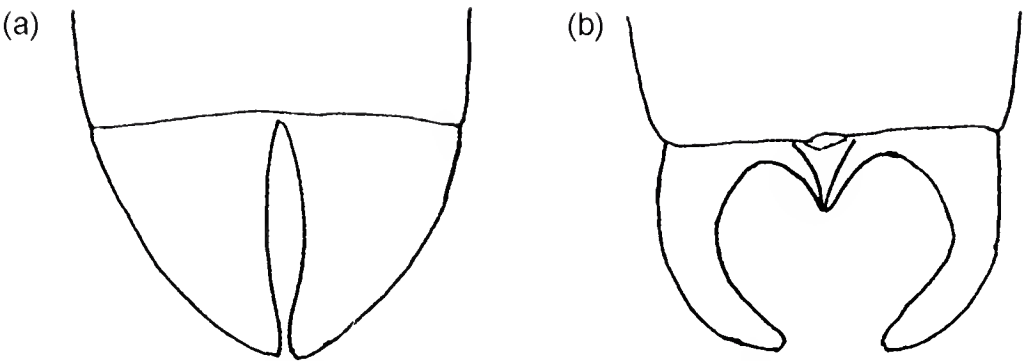


Fig. 2 Female saw-sheath, dorsal view (a) *A. nigripes* (b) *A. berberidis*

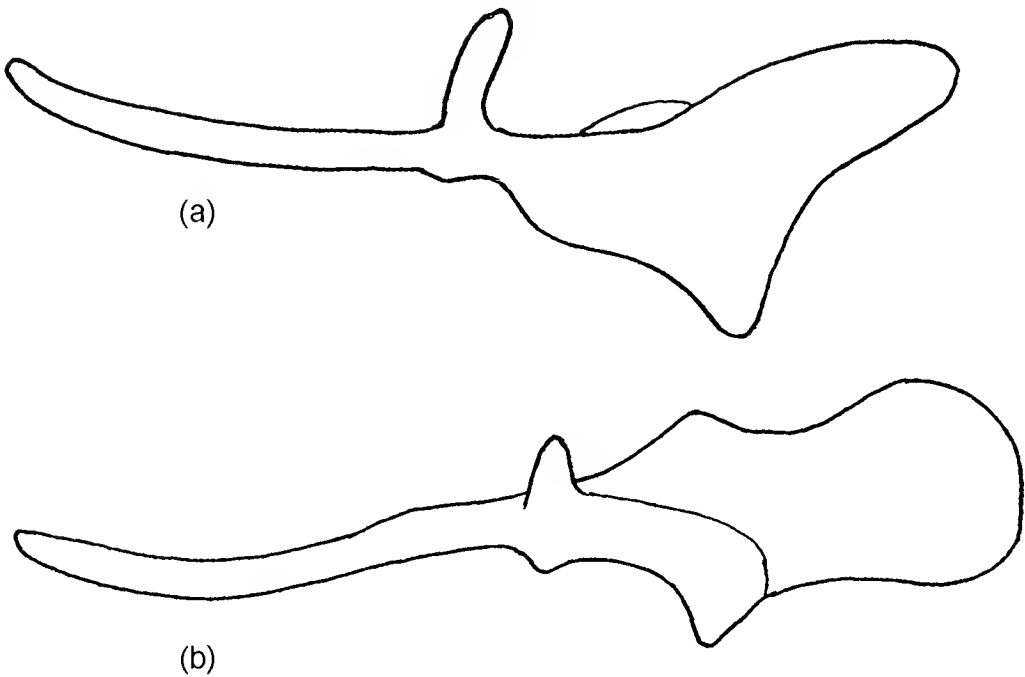


Fig. 3 Male left penis valve (a) *A. nigripes* (b) *A. berberidis*

- Wings subhyaline, yellowish or brownish; pubescence at least on face and mesopleurae silvery white; legs usually partly pale 8
- 6

Vein 3 rm in forewing straight, angled or curved, but cell 2 RS is about as long above as below 7
- Vein 3 rm in forewing straight, angled or curved but cell 2 RS is longer above than below **gracilicornis** (Klug)
- 7

Vein 3 rm of forewing straight, apex of forewing below stigma subhyaline, and strongly contrasting with the deeply infusate base; female with saw-sheath very bluntly rounded apically when the two valves are touching **enodis** (L.)
- Vein 3 rm of forewing curved, forewing without strongly contrasting pale areas; female with saw-sheath that is either acute at apex in dorsal view when the valves are touching, or the valves form a pair of curved callipers 7a
- 7a

Female with broad saw-sheath valves that almost meet along their inner edge (Fig. 2a); male penis valve (Fig. 3a). Larvae on *Rosa* **nigripes** (Retzius in Degeer)

- Female with slender saw-sheath valves that are strongly curved and widely separated (Fig. 2b); male penis valve (Fig. 3b). Larvae on *Berberis* and *Mahonia***berberidis** Schrank

Specimens of *A. berberidis* have been deposited at the Natural History Museum, London; RHS Garden, Wisley; and the BENHS collection at Dinton Pastures Country Park, Winnersh, Berks.

DISCUSSION

Arge berberidis is now well established in gardens in the London area and it is likely that it will continue to spread. Its most frequent garden host plant, *Berberis thumbergii* and its purple-leaved form f. *atropurpurea*, are widely grown in gardens. It is also extensively used in municipal plantings as formerly it has been a relatively pest-free plant and has thorns to make it vandal proof. Berberis sawfly can cause severe defoliation in early and late summer, so the popularity of this plant may decline. The native *Berberis vulgaris* is less frequently grown in gardens.

As a wild shrub, *B. vulgaris* is widely distributed in Britain, although it is less common than in the past (Preston *et al.*, 2002). This is also the host plant of the RDBI/Endangered Barberry Carpet moth, *Pareulype berberata* (D.&S.) (Geometridae), which occurs in a few sites in southern England. Barberry Carpet larvae feed on the foliage in mid June–mid July, with a second generation in late August–September. A more common geometrid moth, the Scarce Tissue *Rheumaptera cervinalis* (Scop.), has larvae that feed on the foliage in early June–late July (Porter, 1997). *Arge berberidis* larvae will be in direct competition for the foliage with both of these species. Unless natural enemies are able to check the sawfly, the consequences for *P. berberata* could be disastrous.

ACKNOWLEDGEMENTS

The author would like to thank Miss G. Clarke for sending me the first specimen of *A. berberidis*, Mr R. Uffen, Mr C.W. Plant and others for sending records of this sawfly, Mr A. Salisbury for preparing the distribution map, Mrs G. Pope for translating the paper by Frankenhuyzen & Blommers, and Mr J. Grearson for providing a male *A. nigripes* and permitting me to dissect out the genitalia.

REFERENCES

Benson, R.B. 1951. Hymenoptera: Symphyta, section (a). *Handbooks for the Identification of British Insects* 6 part 2(a) Royal Entomological Society, London.

Frankenhuyzen, A. van & Blommers, L.H.M. 2000. *Arge berberidis*, een oprukkende bladvesp in Nederland (Hymenoptera: Argidae). *Entomologische Berichten, Amsterdam*. 60: 181–184.

Liston, A.D. 1995. *Compendium of European Sawflies*. Chalastos Forestry, Gottfrieding, Germany.

Muche, W.H. 1977. Die Argidae von Europa, Vorderasien und Nordafrika (mit Ausnahme der Gattung *Aprosthenema*) (Hymenoptera: Symphyta). *Entomologische Abhandlungen Staatliches Museum für Tierkunde in Dresden* 41 (Supplement): 23–59.

Porter, J. 1997. *The Colour Identification Guide to Caterpillars of the British Isles*. Viking, London.

Preston, C.D., Pearman, D.A. & Dines, T.D. (ed) 2002. *New Atlas of the British and Irish Flora*. Oxford University Press.

Quinlan, J. & Gauld, I.D. 1981. Symphyta (except Tenthredinidae): Hymenoptera *Handbooks for the Identification of British Insects* 6 part 2(a). Royal Entomological Society, London.

BOOK REVIEW

The invertebrates of living and decaying timber in Britain and Ireland – a provisional annotated checklist by K.N.A. Alexander. English Nature Research Report No. 467. English Nature, 2002. ISSN 0967-876X.

Ancient woodland insects have attracted a great deal of attention, especially the beetles that breed in dead and decaying timber. With indicator statuses, ecological continuity scores and quality indexes, they have generated a welcome enthusiasm for the study of old woodlands and the result of this is a large body of literature. This latest list goes further than just looking at species associated with truly ancient woods (those present since at least 1600) and includes all species of all orders that feed on or are in some way distinctly connected to timber, living and decaying.

Not surprisingly, there are a large number of beetles, 700 are listed. But there are also 730 flies, 44 moths, 246 Hymenoptera (mostly parasitoids) and 21 thrips. Each entry is accompanied by a short text, ranging from nothing in some cases or a single word 'sap' for the 'fruit' fly *Drosophila immigrans* up to 16 lines for the 'noble' chafer *Gnorinus nobilis*, a personal favourite of Dr Alexander's I think. When faced with a 'provisional' list, my first inclination is to go on the inquisitive offensive and try and find a name that is missing. So off I went.

Alphitophagus bifasciatus? Although claimed to be found in mouldy grain in all the usual text-books, I had found this pretty beetle once, in a dusty and mouldy hollow log in Dulwich Woods. Yes, it's included. Likewise the lesser mealworm *Alphitobius diaperinus*, another stored product beetle that occurs rarely in its 'natural' habitat of fungi and fungoid wood.

How about *Trichius zonalatus*, a bee-chafer that I found in south-east London a few years ago? Although there are a few British records it has never been found breeding here. Yes, it's there, even though it is dismissed as 'doubtfully native'. True enough.

What about *Quedius ventralis*, a species of wood mould under owl nests inside hollow trees? It's not there! Ah, but its senior synonym *Quedius truncicola* is. This is a good list. Even the hive bee *Apis mellifera* is included because feral nests are sometimes established in hollow tree trunks, the ancestral habitat in Eastern Asia where it originated.

In fact, the net has been cast amazingly wide, including such species as *Basilia nana*, an external fly parasite of bats like Bechstein's that roost in hollow trees and the assassin bug *Reduvius personatus* best known feeding on silverfish and booklice in buildings, but also in hollow trees.

The list goes on and on. In the end I could only find one species that I had discovered in rotten wood that is not included. It is the dung beetle *Aphodius sphacelatus*. I found it under the dripping wet fungoid bark of an ancient oak pollard tree on the Sussex/ Hampshire border in 1984. Even then it struck me as an unlikely place to find this beetle. I recently checked the specimen. I still have it my collection. The identification is correct. I remember peeling the bark off and finding it there. A phrase springs to mind, often used when it is not clear exactly which habitat an insect prefers: 'decaying organic matter'. The trouble is that lines are blurred and a book listing detritivores in the broadest sense would dilute significance to absurdity. I'm happy with Dr Alexander's list of timber insects and agree that *Aphodius* dung beetles have no place there.

Richard A. Jones

**BRACHYCARENUS TIGRINUS (SCHILLING)
(HEMIPTERA: RHOPALIDAE) NEW TO BRITAIN**

RICHARD A. JONES

135 Friern Road, East Dulwich, London SE22 0AZ
bugmanjones@hotmail.com

ABSTRACT

The rhopalid bug *Brachycarenum tigrinus* is reported new to Britain, from two specimens found in London’s Battersea Park in July 2003. The bug is described and illustrated and a short key to the British genera of Rhopalidae is given. The recent increase and spread of several related rhopalids is discussed.

INTRODUCTION

Several rhopalid bugs were found by sweeping and by using a suction sampler in Battersea Park (TQ280772), Surrey (VC17), 28.vii.2003. The site was an area of newly seeded grass that had failed because of the long dry summer. It was intended that this area should not be mowed, to allow long grass growth. This was part of a project comparing the faunas of short mown lawn and long grass areas managed by ‘hay meadow’ cutting regimes. But the grass had sprouted, then died and the site had grown up with a sparse straggling growth of annual weeds such as melilot, mayweed, mugwort and Guernsey fleabane, amidst many areas of bare sandy ground. When examined later, the rhopalids proved to be: *Liorhyssus hyalinus* (Fabricius), a recent colonist to Britain after being considered a rare migratory vagrant (Southwood & Leston, 1959; Hawkins, 2003); *Rhopalus subrufus* (Gmelin), typically a species of disturbed ground; *Stictopleurus abutilon* (Rossi), a recent recolonizer in Britain after being thought extinct (Southwood & Leston; 1959, Kirby, 1992) and *Brachycarenum tigrinus* (Schilling) an insect new to Britain.

Brachycarenum tigrinus is a pretty rhopalid leafbug (Fig. 1a), known throughout most of Europe from North Africa, Spain and the Mediterranean to the southern tip of Scandinavia, into southern Russia and the Middle East, Central Asia, Mongolia and Korea. It has also been introduced into the USA. It has been expanding its range in Europe (Moulet, 1995) and its possible arrival in the UK was commented on by Hawkins (2003).

Brachycarenum can be distinguished from other genera in the family by virtue of its short triangular head, only partially divided metapleuron (the thoracic plate above the hind legs, easily visible in side view) and its pale straw yellow colour speckled with black marks (Fig. 1a). The following key to the British genera of Rhopalidae, is adapted from that given by Moulet (1995).

KEY TO THE BRITISH GENERA OF RHOPALIDAE

- 1 Head elongate, eyes less globular; delicate, narrow and elongate species. *Chorosoma*, *Myrmus*
- Head more or less triangular (e.g. Figs. 1a,b); eyes strongly globular, broader and stouter species. 2
- 2 Strongly coloured black and red (or orange); corium sclerotized between the nerves. *Corizus*
- Coloured otherwise; corium transparent between the nerves 3

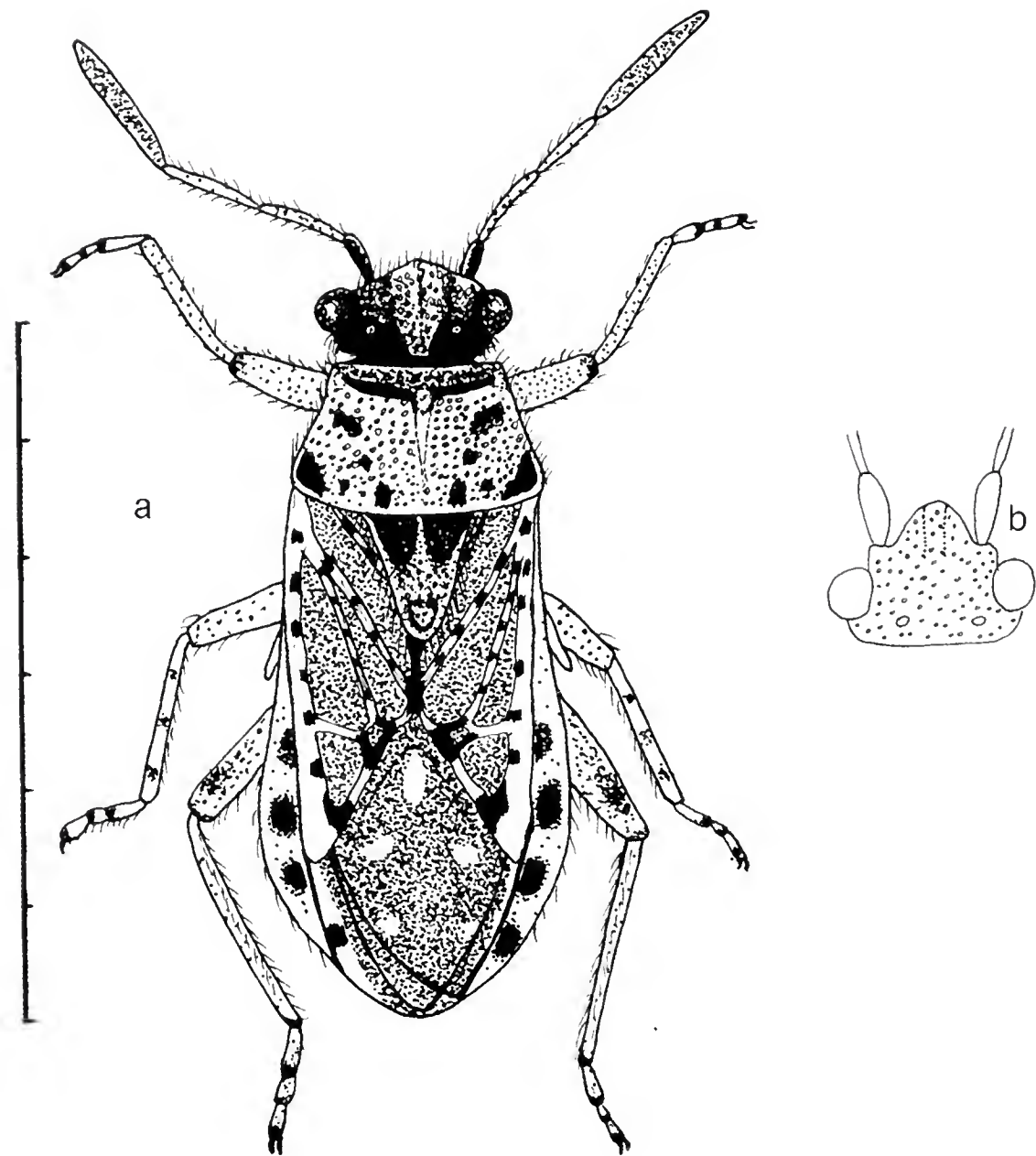


Fig. 1. (a) *Brachycarenum tigrinus* (Schilling), the slightly more dark-marked of the two specimens from Battersea Park. The other specimen had the connexivum clear yellow, without the black marks on each abdominal segment. (b) Head of *Rhopalus subrufus*. Scale rule is in millimetres.

- 3 Metapleuron more or less quadrangular, hind margin weakly convex not obviously divided by a groove, coarsely punctured throughout (Fig. 2a) *Stictopleurus*
- Metapleuron not quadrangular, hind margin strongly sinuate, more or less divided by a groove, coarsely punctured in front, finely punctured behind (Figs 2b & 2c) or hardly punctured at all (Fig. 2d) 4
- 4 Metapleuron divided by a distinct groove (Fig. 2b). Membrane usually extending well beyond the end of the abdomen *Liorhyssus*
- Metapleuron indistinctly divided (Figs 2c & 2d). Membrane usually reaching just to the end of the abdomen 5
- 5 Head short (Fig. 1a), antennal tubercles not prominent, colour straw yellow, marked with black *Brachycarenum*
- Head long (Fig. 1b), antennal tubercles prominent, colour brown, red, or orange sometimes speckled or punctured with black *Rhopalus*

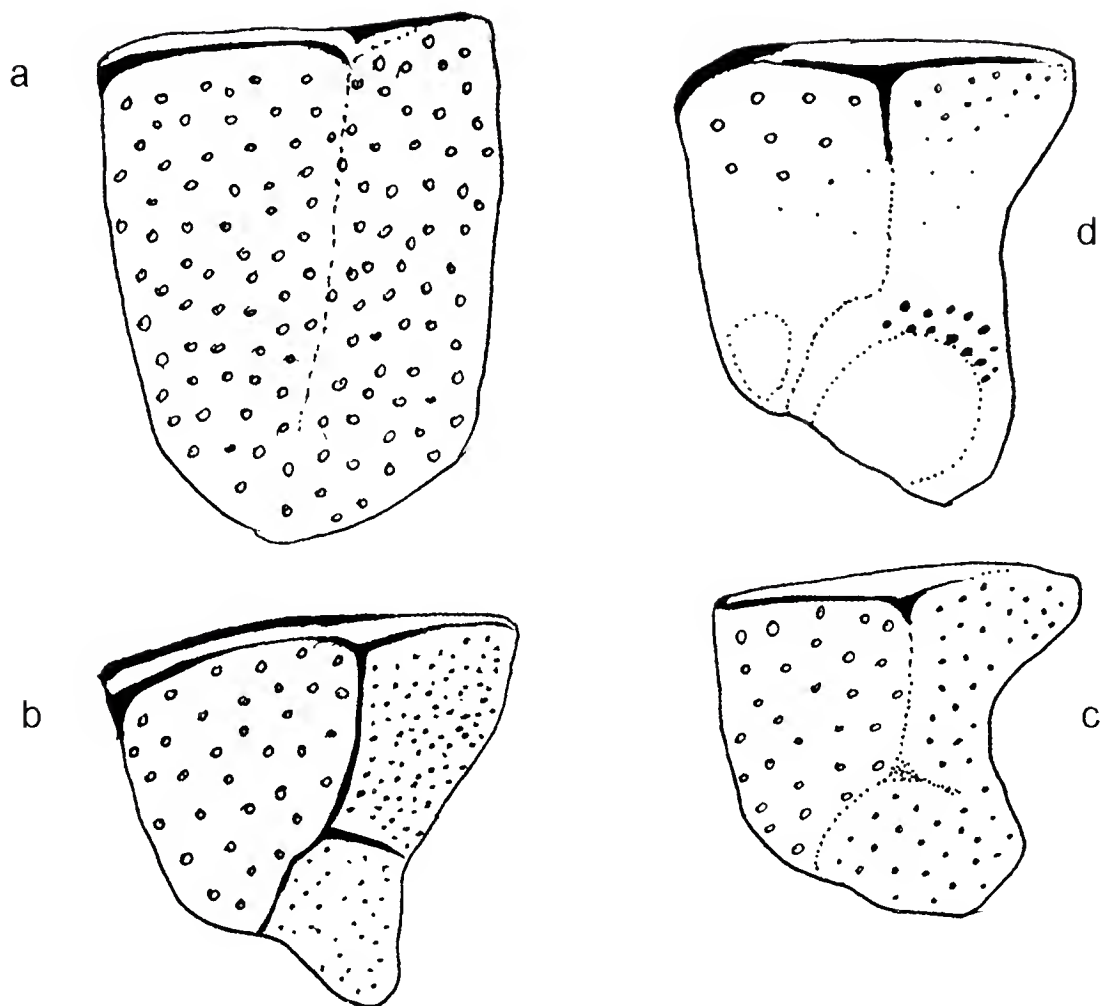


Fig. 2. Metapleuron (the thoracic plate above the hind legs, easily visible in side view) of (a) *Stictopleurus punctatonevrosus*, (b) *Liorhyssus hyalinus*, (c) *Brachycarenum tigrinus* and (d) *Rhopalus subrufus*.

Only one species of *Brachycarenum* is known in Europe, *Brachycarenum tigrinus* (Schilling, 1829). The genus *Brachycarenum* was raised by Fieber in 1861 to separate *tigrinus* from other species of *Rhopalus* in which genus it was originally described. And although some authors (e.g. Göllner-Schneiding, 1978) continue to treat *Brachycarenum* as a subgenus, I have followed Moulet (1995) in giving it full generic status; it will be given full generic status in the forthcoming catalogue of Palaearctic Hemiptera (W.R. Dolling, pers. comm.).

DESCRIPTION

Size 6.5–7.0 mm, of typical rhopalid form, subparallel, legs and antennae moderately long. General ground-colour pale straw yellow marked with black specks. Head, pronotum and scutellum shining and strongly punctured. Head broadly triangular with ocelli prominent and pale against a broad black band adjacent to each eye and with a pale area in front of each. Face and frons with prominent erect pale pubescence. Antennae mostly shining, straw coloured, basal segment with a black streak above, segments 2–3 with some black speckles; segment 4 dull uniform greyish yellow, about eight times as long as broad.

Pronotum trapezoidal about one and a half times as broad as long, strongly punctured and with sparse, but distinct, erect pale pubescence; a transverse trough-

like shallow groove just behind the front margin marked by a dark line, interrupted at centre by a yellow 'bridge'. Pronotum with a slightly raised central line, at least in anterior half; several dark speckle marks on disc and near hind angles. Scutellum pale straw-coloured, slightly raised at apex, with two black marks at the base on each side extending for between one-third and one-half the length; erect pubescence clearly visible. Dark abdomen visible through the transparent cells of the corium and the membrane, but with about five distinct pale spots; the connexivum pale, or marked with black spots at the hind corner of each visible segment. Veins of the forewings pale straw, but marked with prominent black speckles throughout. Erect pale setae visible on all veins.

Legs pale straw yellow, speckled with black marks throughout and usually with a vague cloud at apex of hind femur. Tarsi with each individual segment pale at base, but darkened at apex; claws black. Underside of body more uniformly pale straw-coloured than the upper surface and with no, or only a very few, black speckle marks.

DISCUSSION

Several rhopalid bugs have appeared or reappeared in Britain in the last few years. At the time of the review of scarce and threatened bugs (Kirby, 1992), both *Stictopleurns abutilon* and *S. punctatonervosus* (Goeze) were considered to be 'extinct' in Britain. *Stictopleurns abutilon* had last been taken at Ashted in Surrey in 1948. *Stictopleurns punctatonervosus* had last been recorded at Charlwood in Surrey in 1870. However, in 1996, *S. abutilon* was found in several localities in south-east England (Denton, 1997; Kirby, 1997; Nau, 1997). *Stictopleurns punctatonervosus* was rediscovered in Britain in three Essex localities (Bowdrey, 1999). The two species have been found in most subsequent years, sometimes together (e.g. Jones, 2000a) and sometimes in large numbers (e.g. Jones, 2004). The frequent occurrence of nymphs with the adults confirms that these species are now well established and breeding in Britain.

Liorhyssus hyalinus has also been recorded several times recently (e.g. Hodge, 2002, 2004; Nau, 2004), suggesting that it too is established and breeding here. The specimen of *Liorhyssus* from Battersea Park at first appeared damaged, its left forewing being broken off; however under the microscope it was obvious that the wing was not broken but was twisted and stunted. Rather than having been damaged on capture or before, the wing was actually malformed, indicating that the specimen had bred here and that it had suffered some unknown trauma on its final moult to adulthood.

In his recent book on the shieldbugs of Surrey and related families including Rhopalidae, Hawkins (2003) mentions *B. tigrinus* in passing, along with *L. hyalinus*, commenting that it was spreading through Europe, but had not yet been discovered here.

It is tempting to conjecture how and why these rhopalids are arriving in Britain now. It may be something to do with the fact that rhopalids tend to favour warm, well-drained and sunny places, and that Britain has recently experienced a series of hot dry sunny summers and mild winters. Both species of *Stictopleurns* have been turning up on typical 'brownfield' sites in urban London, sites usually with sparse vegetation and areas of well-drained bare soil. Such brownfield sites are known to favour many warmth-loving insects, usually those with a more or less Mediterranean distribution in Europe, and which are right on the edge of their northern or western range here in Britain. Other typically warm-loving bugs that regularly turn up on such sites are the lygaeids *Nysius senecionis* (Schilling) and *Metapopanax ditomoides* (Costa). Both have appeared in Britain in the last few years and become well

established here. Both species were found in abundance at the dry site in Battersea Park.

Kirby *et al.* (2001) comment on the expanding British and European distributions of various bugs (including *Liorhyssus* and the two *Stictopleurus* species). They suggest that one of the most compelling reasons for some of the range expansion is climatic, since there has recently been a significant and widespread increase in warmth-loving species, both long-established residents and newly discovered species.

Battersea Park has recently yielded several other insects new to Britain including the picture-winged tephritid fly *Rhagoletis meigenii* (Loew) (Jones, 2000b) and the African ichneumon *Ctenochares bicolorus* (Linnaeus) (Jones, 2001).

REFERENCES

- Bowdrey, J.P. 1999. *Stictopleurus punctatonervosus* (Goeze, 1778) (Hem.: Rhopalidae) rediscovered in Britain and new to Essex. *Entomologist's Record and Journal of Variation* **111**: 135–136.
- Denton, J.S. 1997. Recent records of rare and local Hemiptera in Surrey and North Hampshire. *Entomologist's Monthly Magazine* **133**: 79–80.
- Göllner-Schneiding, U. 1978. Bemerkungen zu der Gattung *Rhopalus* Schilling einschliesslich *Brachycarenum* Fieber (Hemiptera: Rhopalidae). *Mitt. Zool. Mus. Berlin* **54**: 313–331.
- Hawkins, R.D. 2003. *Shieldbugs of Surrey*. Pirbright: Surrey Wildlife Trust. 192 pp.
- Hodge, P.J. 2002. [*Liorhyssus hyalinus*. Exhibit at BENHS Annual Exhibition 2001.] *British Journal of Entomology and Natural History* **15**: 180.
- Hodge, P.J. 2004. [*Liorhyssus hyalinus*. Exhibit at BENHS Annual Exhibition 2003.] *British Journal of Entomology and Natural History* **17**: in press.
- Jones, R.A. 2000a. *Stictopleurus punctatonervosus* (Goeze, 1778) (Hem.: Rhopalidae) breeding in Middlesex. *Entomologist's Record and Journal of Variation* **112**: 267–268.
- Jones, R.A. 2000b. *Rhagoletis meigenii* (Loew, 1844) (Dip.: Tephritidae) rediscovered in Britain. *Entomologist's Record and Journal of Variation* **112**: 253–256.
- Jones, R.A. 2001. *Ctenochares bicolorus* (Linnaeus), an African ichneumon found in Britain. *British Journal of Entomology and Natural History* **14**: 96–99.
- Jones, R.A. 2004. [*Stictopleurus abutilon* and *S. punctatonervosus*. Exhibit at BENHS Annual Exhibition 2003.] *British Journal of Entomology and Natural History* **17**: 181.
- Kirby, P. 1992. *A review of the scarce and threatened Hemiptera of Great Britain*. Peterborough: Joint Nature Conservation Committee.
- Kirby, P. 1997. Essex Heteroptera; report for 1996. *Essex Naturalist* (New Series) **14**: 18–20.
- Kirby, P., Stewart, A.J.A. & Wilson, M.R. 2001. True bugs, leaf- and planthoppers and their allies. In: Hawksworth, D.L. (ed.) *The changing wildlife of Great Britain and Ireland*. London: Taylor & Francis. pp. 262–299.
- Moulet, P. 1995. *Hemiptères Coreoidea (Coreidae, Rhopalidae, Alydidae, Pyrrhocoridae, Stenocephalidae) Euro-Méditerranéens*. Faune de France, vol. 81.
- Nau, B.S. 1997. Range-changes in some species of Hemiptera-Heteroptera in Bedfordshire. *Entomologist's Monthly Magazine* **133**: 261–262.
- Nau, B.S. 2004. [*Liorhyssus hyalinus*. Exhibit at BENHS Annual Exhibition 2003.] *British Journal of Entomology and Natural History* **17**: in press.
- Southwood, T.R.E. & Leston, D. 1959. *Land and water bugs of the British Isles*. London: Frederick Warne & Co.

REVIEWS

Maria Sibylla Merian: The St Petersburg Watercolours. Introductory essay by E. Holman (London: Prestel Publishing Ltd. 2003) 160pp. 240 colour illustrations, 50 in double-page spreads. Hardback £55.00 ISBN 3-7913-2927-3.

The Academy of Sciences in St Petersburg houses a little-known but extraordinary group of watercolours by the seventeenth-century German artist, scientist and publisher Maria Sibylla Merian (1647–1717). The group – purchased by Tsar Peter the Great on a trip to the Netherlands in 1717 to acquire art treasures and rare objects for his collections – consists of 194 watercolour and gouache drawings, all of which are reproduced in full colour in this volume.

The collection, which in its diversity reflects the lifelong interests and preoccupations of the artist herself, falls into three broad areas. The largest area encompasses flowers, plants, caterpillars and butterflies in their natural settings; the second shows minerals and fossils; and the third includes snails, crabs and other sea creatures. Most of the drawings were intended to serve as models for engravings in three major book projects: the artist's own *Wonderful Transformation... of Caterpillars* (1678–1718) and *The Metamorphosis of Surinam Insects* (1705), and Georg Eberhard Rumpf's *The Ambonese Curiosity Cabinet* (1705).

As fascinating as the drawings themselves is the story of Maria Sibylla Merian's own life, which is told in the introduction to this book. Born in Frankfurt am Main in 1647 to a Dutch mother and a Swiss father, Maria Sibylla learned the fundamentals of painting, engraving and printing in the workshop of her stepfather Jacob Marrel. An early interest in natural history – she was already breeding and observing caterpillars at the age of thirteen – was fostered when she moved with her husband to Nuremberg in 1670 and was able to study plants and insects in friends' gardens. In later life she embarked on a perilous voyage to the Dutch colony of Surinam in South America, where she spent two years studying the flora and fauna of this tropical jungle landscape at first hand.

The great interest of Merian's work lies in its position on the borders of art and science. Prized as her watercolours are for their exquisite elegance and delicate colouring – indeed Maria intended her *New Book of Flowers* to provide models for embroiderers and painters – her primary purpose was always scientific. Heir to the great botanists of the previous generation, she was herself a great source of inspiration. Biologists and entomologists named plants and animals that she had described after her, and later artists imitated her style.

JOHN BADMIN

Meisterwerke der Buchillustration. Jacob Hubner's "Geschichte europaischer Schmetterlinge (1793–1842)". CD-Rom. (2004, Harald Fischer Verlag GmbH). 98 Euros.

This is a digital facsimile in pdf format of the 500 coloured plates prepared for Jacob Hubner's classic series containing illustrations of the adults, larvae and pupae of the Lepidoptera of Europe. Obtainable via www.haraldfischerverlag.de

Managing priority habitats for invertebrates CD Rom prepared by The Invertebrate Conservation Trust (2004) £34.99.

For the first time detailed information on the habitat requirements of 18 invertebrate groups found in 32 UK priority habitats, amounting to more than 1000 pages of text is available on a single CD Rom. Copies of the CD Rom may be obtained direct from Buglife.

IS THE SOUTHERN GREEN SHIELD BUG, *NEZARA VIRIDULA* (L.) (HEMIPTERA: PENTATOMIDAE) ANOTHER SPECIES COLONISING BRITAIN DUE TO CLIMATE CHANGE?

M.E.A. SHARDLOW AND R. TAYLOR

Buglife – The Invertebrate Conservation Trust, 170A Park Road, Peterborough, PE1 2UF.

ABSTRACT

Adults of the shield bug *Nezara viridula* (L.) have been regularly recorded in the UK as casual imports with vegetable produce. In the summer of 2003, three breeding populations of the species were discovered outdoors. These included 25 fourth and fifth instar nymphs found at Camley Street Natural Park in King's Cross, London, on 22 September 2003. While previously it was thought that establishment of the species in the UK was unlikely, it may be that it is currently in the process of colonising as a result of climate change and warmer annual temperatures.

BRITISH BREEDING RECORDS

There are 27 known casual records of the Southern Green Shield Bug, *N. viridula* (also referred to as the Green Vegetable Bug or Southern Green Stink Bug) in the UK, most from on or around fruit and vegetable groceries; three were found on tropical plants and two were on aircraft. There has only been one record of an egg mass being imported, on green beans (Barclay, 2003).

On 23 August 2003 two *N. viridula* nymphs were collected from a garden at Kingswood Avenue, Queen's Park, London, where they had been observed feeding on unripe tomatoes. Further investigations revealed nymphs on tomatoes in a nearby garden at Summerfield Avenue. These records are detailed in full by Barclay (op. cit.).

On 22 September 2003 the authors were visiting Camley Street Natural Park (London Wildlife Trust) near King's Cross Station (TQ2983). Approximately 25 fourth and fifth instar nymphs of *N. viridula* were observed and photographed by the authors feeding on small bushes of Wayfaring tree, *Viburnum lantana* L. The identification of the shield bug was confirmed by Bernard Nau who visited the reserve on 27 September and observed several of the nymphs. A number of specimens were taken into captivity and after 5–8 days the fifth instar nymphs transformed into adults of the standard green colour form.

IDENTIFICATION

The nymphs of *N. viridula* are very attractive and distinctive. From at least the second instar onwards each segment of the dark abdomen has four large white spots creating four lines of white spots along the abdomen, although in some specimens the outer two lines can be fainter than the central two lines. The fifth instar nymphs are further distinguished by a red spot on the margin of every abdominal segment. Unlike the earlier nymphs that are blackish brown, the fifth instars have a variable amount of brown or green pigmentation.

The adults of *N. viridula* are larger than adults of any currently resident species of shield bug (Pentatomidae). At first glance the species is very similar to the Green



Fig. 1. Fifth instar Southern Green Shield Bug, *Nezara viridula*, Camley Street Natural Park, 22 September 2003. Photo: R. Taylor.

Shield Bug, *Palomena prasina* (L.). However, the apex of the forewing is unpigmented, creating a pale green appearance to the apex in contrast to the usually darker, brown apex of *Palomena*. In addition, *N. viridula* has three diagnostic small white specks along the anterior margin of the scutellum. In some continental individuals of *N. viridula* the body is outlined by a creamy white margin.

DISCUSSION

The Southern Green Shield Bug, *N. viridula* is said to have originated in Ethiopia, or possibly the Mediterranean region, and from there to have spread throughout Europe, Asia, Africa, North and South America, Australia and New Zealand (CAB International, 2003). It is a highly polyphagous species and can reach pest levels of abundance in warmer countries, including Italy, on a range of crops including tomatoes, pecans, potatoes, cotton, grapes, beans, cabbage, citrus, cucurbits, cannabis, macadamia nuts, mango, orchids, peppers, soybeans and watereress.

The bug overwinters as an adult, hiding in locations that give protection from cold weather. In spring the adults emerge and start feeding and ovipositing. Adults are most commonly encountered in spring and late autumn, but in warm climates *N. viridula* can have up to five generations per year (Drees & Jackman, 1999). In temperate climates, the induction of diapause in populations is controlled by photoperiod and associated with a seasonal polyphenism: adults change body colour from green to brown (Todd, 1989; Musolin & Numata, 2003).

The numbers of nymphs recorded at Camley Street and the other two London localities six kilometres to the west are most likely to be the result of a number of egg masses being laid. It would seem probable that these egg masses were produced as a result of at least one previous generation; however, a series of importations of pregnant females or egg masses cannot be completely ruled out.

The last report of the Intergovernmental Panel on Climate Change stated that 'the Earth's climate system has demonstrably changed on both global and regional scales since the pre-industrial era, with some of these changes attributable to human activities' (Watson *et al.*, 2002). Climate change is resulting in significant changes to the British invertebrate fauna. Species already present in the UK such as Roesel's Bush Cricket *Metrioptera roeselii* (Hagenbach) and the Bee Wolf *Philanthus triangulum* (F.) have rapidly increased their ranges, apparently in response to a more favourably warm climate for them in the UK. While species such as the Rosemary Beetle *Chrysolina americana* (L.), the Median Wasp *Dolichovespula media* (Retzius), the bumblebee *Bombus hypnorum* (L.), the tamarisk bugs *Tuponia brevirostris* Reuter and *T. mixticolor* (A. Costa), Small Red-eyed Damselfly *Erythronma viridulum* (Charpentier) and the Southern Oak Bush Cricket *Meconema meridionale* A. Costa have expanded their range to include the UK, some species, such as Red-veined Darter *Sympetrum fonscolombii* (Selys) and the Queen of Spain Fritillary *Issoria lathonia* (L.) have become established temporarily but then disappeared again.

In a period before known global warming Southwood and Leston (1959) listed *N. viridula* as a foreign species and added that it was 'unlikely to become established'. It remains to be seen whether the recent changes to climate and the adaptability of *N. viridula* are sufficient for the species to survive the winter and become an established UK resident. If it does achieve this, there is a possibility that it could become a pest of new crop types grown in a future Britain.

New arrivals to the British fauna are welcomed with a series of papers in national journals. Species with burgeoning national distributions are referenced widely in local and specialist natural history journals. The newspapers get justifiably worried and excited by the prospect of new pests and diseases attacking from the south. Amid the noise there is little concern expressed about those species near their southern distribution limit in the UK, particularly those restricted to northern regions of England and Scotland (which includes many distinct isolated upland forms). A slight rise in mean annual temperatures may result in a significant northward or altitudinal retreat of cooler-adapted species, resulting in eventual extinction. The extinction of an invertebrate species is usually a quiet affair since one is almost invariably unaware that one has just contributed the 'last British record'; a slow conclusion is reached, often over several decades. We can only hope that in 100 years' time we associate this period of climate change with the addition of interesting new species and not tragic losses amongst our northern and water-dependent invertebrate faunas.

ACKNOWLEDGEMENTS

The authors would like to thank Bernard Nau and Max Barclay for their assistance with this article.

REFERENCES

- Barclay, M. V. L. 2003. The Green Vegetable Bug *Nezara viridula* (L., 1758) (Hemiptera: Pentatomidae) new to Britain. *Entomologist's Record and Journal of Variation*, in press.

- CAB International 2003. Crop Protection Compendium CD-Rom.
- Drees, B. M. & Jackman, J. 1999. *Field Guide to Texas Insects*. Gulf Publishing Company, Houston, Texas.
- Musolin, D. L. & Numata, H. 2003. Photoperiodic and temperature control of diapause induction and colour change in the southern green stink bug, *Nezara viridula*. *Physiological Entomology* **28**:65–74.
- Southwood, T. R. E. & Leston, D. 1959. *Land and Water Bugs of the British Isles*. Frederick Warne, London.
- Todd, J. W. 1989. Ecology and behaviour of *Nezara viridula*. *Annual Review of Entomology* **34**:273–292.
- Watson, R. T. & the Core Writing Team 2002. *Climate Change 2001: Synthesis Report*. Cambridge University Press.

BOOK REVIEW

Essex Parks by M. W. Hanson & Records and Members of the Essex Field Club, 2004. 180 pp + 8 colour plates, card covers. £12.50. ISBN 0-905637-17-8. Available from: Essex Field Club, c/o School of Health & Biosciences, University of East London, Romford Road, Stratford, London E15 4LZ. www.essexfieldclub.org.uk.

This book is divided into two sections. The first provides an overview of the historic parklands of Essex, while the second part—twice as long—is about Hylands Park, near Chelmsford in Essex. It is a very interesting and unusually integrated county study of all aspects of historic parks—cultural history as well as natural history. This recognition of the multi-disciplinary interest of historic parklands is a rarity—it is excellent that the Essex Field Club has done something that the National Trust has proved incapable of doing!

The main interest of the book to BENHS members will be the sections on the Diptera (Del Smith & Mark Hanson), Coleoptera (Peter Hammond & Mark Hanson), Hymenoptera (P. R. Harvey & M. W. Hanson), Araneae (P. R. Harvey & M. W. Hanson) and other invertebrates of Hylands Park, based on a three year survey (2000–2003) plus Mark Hanson's discussion of the veteran trees and saproxylic invertebrates. Mark picks out *Callicera spinolae* Rondani and *Psilota anthracina* Meigen (Diptera: Syrphidae), *Lestes dryas* (Kirby) (Odonata) and *Trocheta subviridis* Dutrochet (Hirudinea) as the most notable invertebrates present—there is even a colour plate of the *Callicera*.

Overall, Hylands Park has produced records of 59 nationally scarce or Red Data Book invertebrates and deserves to be better known amongst invertebrate specialists. These species with special conservation status are listed in a separate section which identifies Hylands as one of the most important wood-pasture sites in Essex, outside of the better known Epping, Hatfield and Hainault Forests. Although not of national significance, on present knowledge, Hylands is clearly of county if not regional importance for its saproxylic invertebrates.

There is clearly much still to be found in this site—if a list of a mere eleven fungus gnats is anything to go by—and even the 79 hoverfly species recorded leaves some scope for additional species in that well-studied group. Coleoptera are also still under-recorded—can *Rhagonycha fulva* (Scopoli) truly be absent? There is no moth list at all—a serious challenge to local BENHS members. Compilations such as this are still rare in Britain and this example should hopefully spur on other naturalists to make their own mark in the literature.

KEITH ALEXANDER

2003 ANNUAL EXHIBITION

Imperial College, London SW7–8 November 2003

The following account of exhibits has been compiled by A. M. Jones (British butterflies), G. A. Collins (British Macro-Lepidoptera), H. E. Beaumont (British Micro-Lepidoptera), N. M. Hall (Foreign Lepidoptera), P. J. Chandler (Diptera), R. G. Booth (Coleoptera), A. J. A. Stewart (Hemiptera), and A. J. Halstead (Hymenoptera and other Orders). The photographs of individual insects were taken by R. A. Jones and the cost of printing these was met by a grant from the Hammond Memorial Fund.

The theme “Winter Insects” was proposed as a challenge to members to prepare a display on invertebrates that was not confined by taxonomic rigidity. The notes on these exhibits have been incorporated in a separate section by R. D. Hawkins.

Forty-five members and guests attended the Society’s Annual Dinner which took place in the Senior Common Room facilities at Imperial College immediately following the exhibition. The meal was very enjoyable and the company suitably relaxed after a day’s intense entomology.

BRITISH BUTTERFLIES

BAILEY, K. E. J.—Genetic and temperature experiments during 2003. *Papilio machaon* (L.), ex North Cyprus stock. An example with hypermelanised wing pattern induced by several pupal cold shocks. *Anthocharis cardamines* (L.), a gynandromorph, mainly female with areas of male tissue unevenly distributed, also a female with enlarged and streaked forewing discal spots, both from wild S. Devon ova, 2002. *Polyommatus icarus* (Rott.), an example with reduced underside spotting from long pupal cold shocks. This was from hybrid stock of Sardinian females and Devon males, the strain showed other similar examples but identically treated pure bred Devon stock was unaffected, suggesting that cold shock response may be dependent on the genotype. *Boloria euphrosyne* (L.), with the hindwing spots confluent, from a pre and young pupa given heatwave conditions and then a cold shock. *Argynnis paphia* (L.), extreme melanic aberrations from cold shock, a partially albinistic male of unknown cause and a f. *valesina* Esper ab. *nana* Stephan, a dwarf from a larva given sufficient food at all times, possibly due to inbreeding. *Apatinra iris* (L.) ab. *transternata* Cabeau, female (Plate 12, Fig. 5), from several early pupal heat shocks on second generation stock. *Nymphalis polychloros* (L.) ab. *testudo* Esper, from heat shock to the young pupa and a gynandromorph, principally male but with female tissue between veins S6 to S12 on the left hand underside fore wing. *Inachis io* (L.), extreme examples of ab. *belisaria* Oberthür, from artificially induced second brood stock given cold shock, the larvae had been conditioned to continuous warmth. Also an example of ab. *exoculata* Weymer, from similarly treated natural wild second brood stock, collected as final instar larvae close to pupation. The larvae would have experienced cooler conditions than the artificial stock and the exhibitor believes that the temperature conditioning during the larval stage may modify the response to temperature shocks. *Aglais urticae* (L.) ab. *psendoconnexa* Cabeau, examples from the exhibitor’s strain of this polygenic form and also examples of the new form with a brown shaded underside. An extreme ab. *conjuncta* Meuberg from heat shock. Also an example of ssp. *ichnusa* Hübner from Sardinia, and an ab. *ichnusoidea* de Selys, captured in Devon, to compare with *ichnusa*. The exhibitor believes that *ichnusa* is a separate species and was unable to get hybrid pairings despite optimum conditions. *Euphydryas aurinia* (L.) ab.

melanolenca Cabeau from heat shock and ab. *sebaldis* Shultz from multiple cold shocks, these had similar uppersides but the undersides were quite different, which may help to determine the origins of wild examples. *Vanessa cardui* (L.), extreme examples of ab. *rogeri* Mielhan and ab. *elymi* Rambur from heat shock (Plate 12, Fig. 1), also a wild taken example with pale ground colour, S. Devon, viii.03. *Lasiommata megera* (L.), an extreme aberration from prepupal and pupal cold shock.

BUTLER, A. – Wild caught specimens, the highlight being an extreme male *Polyommatus bellargus* (Rott.), ab. *subtus-partim-radiata* Oberthür (Plate 12, Fig. 7), with heavily striated underside forewings and sparsely marked hind wings, exhibited with a male ab. *obsoleta* Tutt and a female ab. *krodeli* Gillmer, Dorset, viii.2003. A male *Polyommatus coridon* (Poda), ab. *inframelania* Bright & Leeds + ab. *punctata* Bright & Leeds, Chilterns, vii.2003. *Anthocharis cardamines* (L.), three male aberrations all captured in Northamptonshire, ab. *anneoflavescens* Cockerell, iv.2003 (this was paired to a captive bred female with the aim to study its genetics), ab. *umbrosa* Culot, v.1981 and ab. *costanigrata* Closs., iv.2002. *Vanessa atalanta* (L.), a female transitional to ab. *klemensiewiczzi* Schille on the underside only, Wiltshire, vii.2003. A male *Argynnis lathonia* (L.), Wiltshire, vii.2003, a presumed migrant, taken almost expired in woodland following a heavy downpour of rain. Interesting results of cold shock experiments on lycaenid butterflies showing both striation and obsolescence of the underside spotting. *P. bellargus*, a pair of ab. *subtus-partim-radiata*, a female ab. *parallela* Courv., a male ab. *obsoleta* and a female ab. *krodeli*, exhibited adjacent to the similar wild caught specimens believed to result from the high summer temperatures. *P. coridon*, a male ab. *obsoleta* Bright & Leeds, and females ab. *antiradiata* Bright & Leeds, ab. *corydonis* Berg., ab. *extensa* Tutt and ab. *antistriata* Bright & Leeds. *Polyommatus icarus* (Rott.), pairs each of ab. *obsoleta* Gillmer, ab. *glomerata* Tutt, and ab. *digitata* Courv. *Celastrina argiolus* (L.), a pair of ab. *obsoleta* Tutt. *Satyrus w-album* (Knoch) a male ab. *butlerowi* Tutt with a reduction of the underside white bands. Nymphalid butterflies also resulting from cold shock experiments included second generation *Limenitis camilla* (L.), ab. *obliterae* Robson and ab. *nigrina* Weymer reared on snowberry. A female *Aglaia urticae* (L.) approaching ab. *osborni* Donckier. A series of *Vanessa cardui* (L.) showing extreme forms of ab. *rogeri* Meilhan to both surfaces.

BUTTERFLY CONSERVATION, Hertfordshire & Middlesex branch – ‘The Hertfordshire Purple Emperor Project (*Apatura iris* (L.))’, a report, supported by Herts. Natural History Society, detailing four years’ work, and consisting of historical notes, survey results, notes on behaviour, habitat associations and possibilities for habitat management.

HARMER, A. S. – *Colias croceus* (Geoff.), three male ab. *rufomaculata* Lempke, a male ab. *cremonae* Verity + ab. *faillae* Stefandli (Plate 12, Fig. 3), a female ab. *helice* Hübner + ab. *nigrofasciata* Verity, all bred from two Dorset females. *Polyommatus icarus* (Rott.) a female intersex (left forewing) from the Scilly Isles, and a male ssp. *mariscolore* (Kane) ab. *rufopunctatus* Neuberger. *Lycaena phlaeas* (L.) a female ab. *caeruleopunctata* Ruhl + ab. *cythereopunctata* Tutt from Portland, Dorset. *Pararge aegeria insula* (Howarth), a female with homoeosis on the underside of both hindwings, the ocellus being partly reproduced on the right hindwing. A pair of ab. *minima* Pionneau, all bred from Isles of Scilly stock. *Maniola jurtina* (L.), a female ab. *minor* Leeds, from Portland, Dorset.

HUMPHREY, D. – A short series of *Polyommatus coridon* (Poda) aberrations mostly captured on 22.vii.2003, and including a male ab. *fowleri-margino* Bright & Leeds.

JONES, A. M. – A male *Polygonia c-album* (L.) ab. *suffusa* Tutt, and a male *Argynnis paphia* extreme ab. *ocellata* Frings, both captured vii. 2003. A male

Polyommatus icarus (Rott.) similar to ab. *suffusa* Tutt of *Polyommatus bellargus* (Rott.), the only aberration to emerge from a large F₂ generation of a typical female (Plate 12, Fig. 6), 17.x.2003. *Colias croceus*, three extreme examples of ab. *pseudonias* Cockerell, bred in an F₁ generation from a typical female x. & xi.2002. A short series of *Argynnis paphia* (L.), ab. *rosea* Cosmovici, bred in an F₁ generation from larvae that survived a virus that had killed many of their siblings. It may be possible that the stress to the larvae engendered the aberrations, other broods that suffered the same virus produced similar specimens.

LUCKENS, C. – *Pyrgus malvae* (L.), ab. *taras* Berg. taken from a Sussex locality where approximately 30% of the population were either *taras* or transitional forms. *Aricia artaxerxes* (Fab.), ab. *quadripuncta* Tutt from Perthshire, Tummel Bridge, 2002. *A. artaxerxes saluacis* (Stephens), ab. *obsoleta* Tutt, Durham, 2002. *Polyommatus bellargus* (Rott.), a male ab. *conjuncta* Tutt (Plate 12, Fig. 8), ab. *parallela* Tutt, ab. *krodeli* Gillmer and a female with the normal orange markings almost invisible. All taken in Wiltshire during 2003, the summer brood started emerging at the end of July and by the middle of August had produced huge numbers. *Polyommatus coridon* (Poda), a good female ab. *albescens* Tutt, and an ab. *uigrescens* Tutt, both from Sussex, 2002, and an ab. *anticaeca* Bright & Leeds and ab. *postcaeca* Bright & Leeds from Hampshire, 2003. *Aphantopus hyperantus* (L.), yellowish Scottish examples of ab. *arete* Müller from Perthshire, Tummel, 2003 compared with darker southern English examples from Hampshire, 1999. *Hipparchia semele* (L.), a male ab. *suffusa* Tutt from Sussex, 2002.

MCLEOD, L. – A specimen of *Vanessa cardui* (L.) ab. *rogeri* Mielhan (Plate 12, Fig. 2), taken in the exhibitor's front garden on *Buddleja* on 14.vii.2003, amongst twenty typical examples and *Inachis io* (L.), *Vanessa atalanta* (L.), *Aglais urticae* (L.) and *Polygonia c-album* (L.).

PEET, T. N. D. – *Plebejus argus* (L.), a pair from Sark, Channel Islands, vi.1996. Only two colonies are known from the Channel Islands, one on Jethou and one on Sark. It has apparently been extinct on Guernsey for over thirty years. A dwarf female *Polyommatus icarus* (Rott.), from Herm, 27.vii.1984.

STACEY, I. F. – A selection of butterflies and aberrations from the collection of the late John H. Payne. John Payne was an early devotee to captive breeding of British butterflies. The specimens exhibited reflected this, including examples of *Apatura iris* (L.) from Salcey Forest, Northamptonshire, and *Papilio machaon britannicus* (Seitz) from Wicken Fen, Cambridgeshire, both from ova and larvae taken 50 years ago. In the early 1960s he was apparently the first to successfully breed from an example of *Leptidea sinapis* (L.) ab. *brunneomaculata* Stauder and by rearing to an F₂ generation prove it to be a genetic recessive. Also exhibited was a female *Aphantopus hyperantus* (L.) ab. *chrysophalarus* Collier, from Salcey Forest, used for breeding, the resultant eggs being shared with the late A. E. Collier, who described the aberration from specimens in the F₂ generation. A male aberration from this generation was also exhibited as were specimens of ab. *lanceolata* Shipp and ab. *arete* Müller from other experiments. Also a *Melanargia galathea* (L.) ab. *mosleyi* Oberthür, from a bred series ex Castor Hanglands, Cambridgeshire. Finally a specimen of *Pieris brassicae* (L.) ab. *fasciata* Kieffer + ab. *coerulea* Gardiner, from stock maintained for many generations.

TEBBUTT, P. – Temperature experiments on Lycaenidae; freshly formed pupae were held for 2–5 °C for c. 21 days. This mainly affected the undersides by reducing spots but in some caused elongation. *Polyommatus icarus* (Rott.), a range of specimens from total absence, ab. *obsoleta* Gillmer, to extreme inward elongation, ab. *digittata* Courv. *Aricia agestis* (D.&S.), a similar range, but with the elongated

spots moved outwards on the forewings, ab. *subtus-radiata* Oberthür. Some uppersides had a white line on the hindwings, ab. *supracuneata* Lempke, a form that occurs regularly when this species is bred. *Polyommatus coridon* (Poda), extreme inward elongation of the spotting on all four wings, ab. *extensa* Tutt, and some with reduced spotting including a female ab. *sagittata* Bright & Leeds, almost spotless with extended chevrons. Similar results were obtained with *Polyommatus bellargus* (Rott.), and included an ab. *subtus-partim-radiata* Oberthür, with inwardly elongated fore wing spots. *Celastrina argiolus* (L.), with a reduction of spots, particularly on the hind wings, one female upperside had extensive black borders to all wings, ab. *clara-suffusa* Tutt. *Satyrium w-album* (Knoch), an ab. *butlerowi* Tutt. *Neozeephyrus quercus* (L.), transitional to ab. *infraobscura* Goodson, with a reduction to the underside markings, and an untreated specimen with slightly wider hindwing bands. Similar cold shock experiments on *Vanessa atalanta* (L.) reduced the red band on the fore wing. A combination of heat and cold shock produced a *Boloria euphrosyne* (L.) ab. *rabesina* Cabeau, with blackened bases to the hindwings, and similar but more extreme treatment to purchased stock of *Argynnis adippe* (D.&S.) resulted in a single ab. *pepida* Howarth (Plate 12, Fig. 4.).

Other bred and wild caught specimens included *Melanargia galathea*, ab. *valantini* Williams, a wild caught *P. icarus* ab. *obsoleta*, and two bred females from Norfolk, similar to Irish specimens. From the same site two bred *Lycaena phlaeas* (L.) ab. *antiultraeleus* Leeds, with blackish forewings. A male *P. bellargus* with silky blue ground colour. *Anthocharis cardamines* (L.), two specimens, a female with large discal spots and a mixed gynandromorph right forewing upperside mainly female with a short orange streak, the underside male with a short female streak, left side totally male.

WEDD, D. – A female *Argynnis aglaja* (L.) from Inis Meain, Aran Islands, W Ireland, vii.2003. *A. aglaja* were very common in counties Clare and Kerry and in hundreds on Inisheer and especially Inis Meain, Aran Islands. *Lampides boeticus* (L.) a pair from Grouville, Jersey, Channel Islands and two offspring. More than forty were seen on Jersey in viii.2003, the first three were found at Grouville (including a pair in cop.) on 7. viii, after a foggy night in which twenty-eight *Vanessa cardui* (L.) and eight *Vanessa atalanta* (L.) appeared at two MV light traps. Another pair in cop. was found on 8.viii, also at Grouville, after which the species turned up widely about the island. Further adults were reared by R.Woods and the exhibitor from eggs laid by captive females and from larvae found feeding on Everlasting Pea. On 20.ix.2003 one more was seen fluttering over an arch of Everlasting Pea at Marsh Lock on the Thames, Oxfordshire.

WINOKUR, L. – *Pyronia tithonus* (L.), a male with white pathological patches to the upper and underside of both hindwings. This was captured at Southampton University's ecology meadow at Chilworth, Hampshire, 5.vii.2003, whilst collecting *Thymelicus* butterflies for a research project into automated computer species recognition.

BRITISH MACROLEPIDOPTERA

Exhibits of moths from the Channel Islands are included under British Macrolepidoptera, as has traditionally been the case, but it is recognised that they are not part of the British fauna. Several members exhibited such specimens and they are listed in a subsection of the report. Also included are illustrations of Lepidoptera as there was no specific recorder for these.

BROTHERIDGE, D. – Moths from Avebury, N. Wilts, 2003: *Eugnorisua glareosa* (Esp.), 6.x. (first vice-county record for over a hundred years); *Helicoverpa armigera* (Hb.), 27.ix.; *Pseudoips prasinata* (L.), 22.viii. (a possible second brood); an aberrant *Cyclophora*, possibly *punctaria* (L.), 10.viii.

BROWN, D. C. G. – Immigrant moths from the Lizard, W. Corn., in October 2003: *Agrius cotinivuli* (L.); *Acherontia atropos* (L.); *Hyles livornica* (Esp.); *Rhodometra sacraria* (L.); and an example of *Agrotis segetum* (D.&S.) ab. *mediocincta*, 13.x. (Plate 13, Fig. 2).

BUTCHER, A. G. J. – Moths from the Isle of Grain, E. Kent, in 2003: *Orthosia incerta* (Hufn.), 29.iii (melanic); *Nola albula* (D.&S.), 18.ix (possible second brood); *Eilema pygmaeola* (Doubt.), 15.vii; *Deltote bankiana* (Fab.), 26.iv; and *Aplasta onouaria* (Fuess.), seven individuals 6–18.viii.

CHANEY, J. & SPENCE, J. – A moth believed to be *Cyclophora ruficiliaria* (H.-S.), Freshwater Bay, Portland, Dorset, 19.vii.2003, (Plate 13, Fig. 9) together with photographs of resultant larvae and pupae. [Those present, who had experience of the species from the Channel Islands, considered the identification to be correct, in which case it is new to Britain.]

CLANCY, S. P. – Moths from the Dungeness area, E. Kent, mainly in 2003. Three examples of *Nycteola asiatica* (Krul.): Lydd, 20.ix.1993; Greatstone, 22.ix.1999; and Dungeness, 2.vii.2003, the earlier two examples identified retrospectively and representing the earliest British records. *Platyperigea kadenii* (Frey.): New Romney, 3.x.2002 (first British record); Greatstone, 2003 (2); and Lydd, 2003 (2). Other immigrant moths in 2003 included: *Scopula rubiginata* (Hufn.), Lydd, 13.vii, and Greatstone, 11.viii; *Thera cypressata* (Geyer), Greatstone, 11.vi; *Glyphisia crenata* (Esp.), New Romney, 17.vi (first British record in over 150 years); *Pelosia muscerda* (Hufn.), Dungeness, 9.vii; *Agrotis crassa* (Hb.), Dungeness, 1.viii; *Polia bombycina* (Hufn.), Greatstone, 6.vii; *Cryphia algae* (Fab.), Greatstone, 16.vii, and New Romney, 6.viii; *C. raptricula* (D.&S.), Greatstone, 10.viii; *Tyta luctuosa* (D.&S.), New Romney, 17.vii; *Acontia lucida* (Hufn.), Greatstone, 21.ix; and *Pechipogo plumbigeralis* (Hb.), Greatstone, 10.x. Also shown were four of at least sixteen individuals of *Noctua janthina* (D.&S.) taken in south-east Kent in 2003, together with the comment that there was not universal acceptance of the specific distinctness of *janthina* and *janthe* (Borkh.). Aberrations including: *Malacosoma nenstria* (L.), Dungeness, 20.vii; *Scopula marginipunctata* (Goeze), Lydd, 15.ix; *Semiaspilates ochrearia* (Rossi), Dungeness, 15.ix (Plate 13, Fig. 7); and *Eugnorisma glareosa* (Esp.), Dungeness, 30.ix (Plate 13, Fig. 3).

CLARKE, J. H. – Moths taken in 2003: *Hyles livornica* (Esp.), Portland, Dorset, 6.viii; *H. gallii* (Rott.), bred from female, E. Suff., 3.vii; *Pechipogo strigilata* (L.), Harewood Forest, N. Hants, 5.vi.; *Rhenaptera hastata* (L.), Harewood Forest, N. Hants, 29.v.; *Perizoma minorata ericetata* (Steph.), Cairngorm, Easternness, 22.vii; *Carsia sororiata* (Hb.), Newtonmore, Easternness, 22.vii.; and *Chilodes maritimus* (Tausch.) and *Mythimna flannea* (Curt.), St Leonards, E. Sussex.

COLEMAN, D. A. – A specimen of *Spodoptera littoralis* (Boisd.) from Carshalton, Surrey, 16.vi.2003.

COOK, R. R. – Some moths taken or reared in 2002 and 2003, including: *Sabra harpagula* (Esp.), Tintern, Mons., 25.vi.2002; *Eupithecia deuotata jasionata* Crewe, reared from larvae, Lizard, W. Corn., viii.2001; *Pechipogo strigilata* (L.), Harewood Forest, N. Hants, vi.2003; *Agrotis ripae* (Hb.), reared from larvae, St Agnes, Scilly, W. Corn., ix.2002; *Auticollix sparsata* (Trot.), reared from larvae, Merritown Heath, Dorset, viii.2001 and viii.2002; *Henaris tityus* (L.), reared from larvae, Martin

Down, S. Wilts, vi.2002; *Polymixis lichenea scillonea* Rich., St Mary's, Scilly, W. Corn., 20.ix.2002; and *Minoa murinata* (Scop.), Stubhampton, Dorset, 4.vi.2001.

CRONIN, A. – Aberrations of *Callinorpha dominula* (L.) from stock reared in captivity through twelve generations, including an extreme ab. *bimacula* Cock. and two ab. *medionigra* Cock.

DAVEY, P. – Moths from Dorset in 2003: *Lacanobia splendens* (Hb.), Boys Wood, 7.vii; *Spodoptera exigua* (Hb.), Shapwick, 30.v; *Scotopteryx uncinata umbrifera* (Heyd.), Rooksmoor, 5.vi; *Eupithecia egearia* H.-S., Edmonsham, 16.vi (the last two new vice-county records).

DAWSON, J. R. – *Synanthedon andrenaeformis* (Lasp.), Fulbourn, Cambridge, 21.vi.2003, attracted to pheromone lure. *Mythimna ferrago* (Fab.), Wicken, Cambridge, 26.vi.2002, a dark aberration (leg. J. Cadbury) (Plate 13, Fig. 5).

DOBSON, A. H. – Moths caught in 2003, including: *Xestia xanthographa* (D.&S.), Basingstoke, N. Hants, 5.ix (aberration); *Hypena obsitalis* (Hb.), reared from larva, Torquay, S. Devon, 11.viii; *Hypena rostralis* (L.), Pamber Forest, N. Hants, 4.v (leg. A. Albery); *Heliothis peltigera* (D.&S.), Greywell, N. Hants, 13.vi (leg. P. Boswell).

GARDINER, B. – An old magazine article from *Work: a weekly journal for amateur mechanics* from the 1920s, describing a “magnetic” method of setting moths.

HALL, N. M. – Some moths caught in 2003: *Cryphia algae* (Fab.), Hastings Country Park, E. Sussex, 15.vii; *Eilema pygmaeola* (Doubt.), Hastings Country Park, E. Sussex, 15.vii; *Lithosia quadra* (L.), Church Norton, W. Sussex, 20.ix; *Archanara dissoluta* (Treits.), Avon Valley Nature Reserve, Salisbury, S. Wilts, 23.viii; *Lithophane semibrunnea* (Haw.), Earley, Reading, Berks, 8.v; *Mesapamea secalis* (L.), Hastings Country Park, E. Sussex, 5.viii, an aberrant example with small wings and a long abdomen.

HARLEY, B. – Three posters showing the cover and two plates of set moths from *British and Irish Pug moths* by Adrian Riley and Gaston Prior and published by the exhibitor.

HARMER, A. S. – A specimen of *Macdunnoughia confusa* (Steph.) from Lymington, S. Hants, 5.ix.2003.

HART, C. – Moths captured in 2003: *Xestia rhomboidea* (Esp.), Buckland, Surrey, 7.viii; *Thera cypressata* (Geyer), Branscombe, S. Devon, 14.vi (second Devon record); *Chortodes fluxa* (Hb.), Church Norton, W. Sussex, 12.viii (an orange form, with typical specimens for comparison); *Aplasta ouonaria* (Fuess.), Ockley, Surrey, 16.viii (new to Surrey, leg. W. Attridge).

HAYWARD, R. – The results of a brief survey into the distribution of *Hypena rostralis* (L.) in south Bucks. Larvae were found, sometimes plentifully, in three localities surveyed, and small numbers of adult moths also recorded at MV light from a further two sites. [This species was added to the list of UK BAP moths as it was considered to be scarce and declining. Several local surveys, for example in Surrey and Oxfordshire, have shown that larvae are widespread and common and it must be concluded that the modern reliance on moth trapping rather than traditional field work has resulted in our ignorance of the moth's true status – GAC]. Moths from Ermington, S. Devon in August 2003, including: *Orthonana obstipata* (Fab.), 9.viii; and *Spodoptera exigua* (Hb.), 9.viii. Some clearwings taken at pheromone lures at Aston Rowant, Oxon: *Synanthedon andrenaeformis* (Lasp.), 25.vi.2003; and *Bembecia ichneumoniformis* (D.&S.), 7.vii.2003.

HENWOOD, B. – Moths caught in 2003: *Trichoplusia ni* (Hb.), Hartland Point, N. Devon, 23.vi; *Tethea or or* (D.&S.), Hannaborough Moor, Hatherleigh, N. Devon, 31.v; *Cerastis leucographa* (D.&S.), Blinsham, Great Torrington, N. Devon, 29.iii;

Beubecia ichnenmouiformis (D.&S.), Chapel Porth, W. Corn., 6.vii, at pheromone lure. *Lygeplila cracca* from Hartland Point, N. Devon, reared from larvae found by the exhibitor, A. Spalding, S. Hatch and R.F. McCormick on 23.vi.2003 on tufted vetch *Vicia cracca*, a foodplant previously unrecorded in Britain. A selection of about 33 exuviae of *Sesia beubeciformis* (Hb.) which had emerged from a single tree of *Salix caprea* in vii.2003.

JENKINS, A. – Moths, including: *Coenophila subrosea* (Steph.), North Wales; *Lithosia quadra* (L.), New Forest; *Actebia praecox* (L.), “Inverness-shire”; *Ptenyria rubiginata plumbeata* (Curt.), and a striking form of *Chloroclysta citrata* (L.) “Perthshire” (Plate 13, Fig. 8) – no additional data supplied.

JONES, R. A. – A photograph of *Macroglossini stellatarum* (L.) roosting. At Purton Green, W. Suffolk, 4.x.2003, the moth was seen hovering inside the open door of a barn. It settled against one of the beams and remained there until the next morning when it had departed by noon.

KNILL-JONES, S. – Moths from Totland, IoW, including: *Hyles livornica* (Esp.), 2.vii and 11.viii; *Lacanobia splendens* (Hb.), 5.vii (new to VC10); *Mythimna unipuncta* (Haw.), 21.viii; *Heliothis peltigera* (D.&S.), 7.viii; *H. armigera* (Hb.), 26 and 27.viii; *Trichoplusia ni* (Hb.), 8.vii; *Orthomania obstipata* (Fab.), 11.viii; *Atolmis rubricollis* (L.), 5.viii; *Mythimna loreyi* (Dup.), 1.x; *Mythimna vitellina* (Hb.), 18.ix. A specimen of *Cyclophora* assumed to be *pupillaria* (Hb.), Freshwater, 25.x.1988 (see exhibits by D. Wedd and J. Chainey).

KOLAJ, A. & SHARP, P. and D. – Immigrant moths caught on the IoW, 15-22.viii.2003: *Agrins convolvuli* (L.), Ventnor, several feeding at dusk; *Cryphia algae* (Fab.), Ventnor, 15, 17 and 18.viii; and *Helicoverpa armigera* (Hb.), Compton Bay, 16.viii (15+). Also shown were four *Cyclophora* sp. initially considered to be *pupillaria* (Hb.), emended to *linearia* (Hb.) and finally considered as candidates for *ruficiliaria* (H.-S.) (see exhibits by D. Wedd and J. Chainey).

LANGMAID, J. R. – Moths from Southsea, S. Hants in 2003: *Agrotis puta puta* (Hb.), 2.viii, bilateral gynandromorph; *Trichoplusia ni* (Hb.), 12.viii; *Plusia festucae* (L.) ab. *coalescens* Schulze, 15.viii; *Platyperigea kadenii* (Frey.), 11.vii (Plate 13, Fig. 1).

MCCORMICK, R. F. – Notable moths recorded in Devon in 2003: *Tethea or* (D.&S.), Hannaborough Moor, Hatherleigh, N. Devon, 27 and 31.v (first confirmed Devon records); *Perizoma taeniata* (Steph.), Watersmeet, Exmoor, N. Devon, 12 and 14.vii; *Perizoma albulata* (D.&S.), Braunton Burrows, N. Devon, 8-27.vi (leg. S. Hatch); *Enpithecia irriguata* (Hb.), Whiddon Down, Chagford, S. Devon, 19.iv (leg. B. Bewsher); *Venusia cambrica* Curt., Watersmeet, Exmoor, N. Devon, 12 and 14.vii; *Lobophora halterata* (Hufn.), Hannaborough Moor, Hatherleigh, N. Devon, 31.v and Quoditchmoor, Ashwater, N. Devon, 21.vi; *Abraxas sylvata* (Scop.), Watersmeet, Exmoor, N. Devon, 12 and 14.vii; *Acherontia atropos* (L.), Meeth, Okehampton, N. Devon, 25.ix; *Hyloicus pinastri* (L.), West Hill, Ottery St Mary, S. Devon, 24.vi (leg. P.J. Baker); *Hemaris tityus* (L.), Coombe Meadow, Hatherleigh, N. Devon, 12.vi; *Hyles livornica* (Esp.), Hartland Point, N. Devon, 22.vi, Exmouth, S. Devon, 4.vii, Slapton Ley, S. Devon, July, and Spitchwich Manor, Poundsgate, S. Devon (larvac); *Eucreula bienspis* (Borkh.), Hannaborough Moor, Hatherleigh, N. Devon, 31.v; *Ptilodontella cucullata* (D.&S.), Watersmeet, Exmoor, N. Devon, 14.vii; *Atolmis rubricollis* (L.), West Hill, Ottery St Mary, S. Devon, 13.vi (leg. P.J. Baker); *Meganola albula* (D.&S.), Compyne, Rousdon, S. Devon, 19.vii; *Cerastis lencographa* (D.&S.), Great Torrington, N. Devon, 29.iii and Rodborough Wood, N. Devon, 17.iv; *Hadena albimacula* (Borkh.), Branscombe, S. Devon, 14.vi; *Orthosia populeti* (Fab.), Hannaborough Moor, Hatherleigh, N. Devon, 12.iv (leg. R. Wolton); *Trachea atriplicis* (L.), Dawlish, S. Devon, 2.vii (leg. P. Franghiadi);

Celaena haworthii (Curt.), Crown Hill, Plymouth, 15.vii (leg. J. Beswetherick), *Trichoplusia ni* (Hb.), Hartland Point. N. Devon, 22.vi.

NASH, S. – A specimen of *Earias vittella* (Fab.) from Durlston Head, Swanage, Dorset, 16.vi.2003, exhibited as new to Britain and only the second European record. It has expanded its range in recent years and now occurs in Sudan and the Middle East. Examination of meteorological data for the period (by Peter Davey) suggests that immigration from sub-Saharan Africa was a distinct possibility. Other migrant moths taken in 2003 included: *Hyles livornica* (Esp.), Durlston, Dorset, 26.vi; *Cryphia algae* (Fab.), Durlston, Dorset, 8.viii; *Eublemma ostrina* (Hb.), Durlston, Dorset, 26.vi; and *Trichoplusia ni* (Hb.), Fernham, Berks, 13.viii. A specimen of *Xanthia gilvago* (D.&S.), Lizard, W. Corn., 13.x.2003 – new to Cornwall.

OWEN, J. – Moths from Dymchurch, E. Kent in 2003: *Lacanobia splendens* (Hb.), 14 and 16.vi (new to Britain) (Plate 13, Fig. 6); *Noctua janthina* (D.&S.), 29.vi; *Trichoplusia ni* (Hb.), 18.vi; *Nudaria mundana* (L.), 4.vii; *Hydrelia sylvata* (D.&S.), 30.vi; *Orthonana vittata* (Borkh.), 7.vi; *Scopula nigropunctata* (Hufn.), 23.vi (occurred in 5 of the last 7 years here); *Mythimna loreyi* (Dup.), 21.ix. A specimen of *Aporophyla* exhibited as *luenebergensis* Frey., 29.ix.2003. The status of *luenebergensis* and *lutulenta* (D.&S.) has long been a source of confusion. Current British opinion (e.g. Skinner, 1984) gives them as separate species with, respectively, a northern and southern distribution. Bradley (1998) concurs, but suggests they are possibly conspecific, whereas Ronkay, Yela & Hreblay (2001) consider *luenebergensis* to occur in northern and western Europe and *lutulenta* in eastern Europe with no overlap.

PARSONS, M. S. – Moths from Walditch, Dorset in 2003: *Mythimna loreyi* (Dup.), 20.ix; *Agrotis ipsilon* (Hufn.), aberration, 11.ix.

PATTON, S. – Moths from Kingsham, W. Sussex in 2003: *Spodoptera exigua* (Hb.) – a small selection from over 300 recorded in 2003; *Noctua janthina* (D.&S.), 5.vii; *Helicoverpa armigera* (Hb.), 12.viii (one of 12 recorded in 2003); and *Trichoplusia ni* (Hb.), 14.vii. Examples of *Heliothis peltigera* (D.&S.) reared from larvae collected at Pagham Harbour, W. Sussex.

PHILLIPS, J. W. – A selection of moths caught or reared in 2003 including: *Spilosoma urticae* (Esp.), Romney Marsh, E. Kent; *Coenophila subrosea* (Steph.), Borth Bog, Cardigan; *Cryphia algae* (Fab.), Hayling Island, S. Hants; and *Synanthra nunscaefornis* (Esp.), Lley Peninsula, Caernarvon, to pheromone lure.

SIMS, I. – *Rhodometra sacraria* (L.), Kingcombe, Toller Porcorum, Dorset, 20.ix.2003 and Powerstock Common, Toller Porcorum, Dorset, 21.ix.2003. *Pyrrhia umbra* (Hufn.), Salthouse, E. Norfolk, 29.viii.2002, flying by day.

THIRLWELL, I. R. – *Xanthia ocellaris* (Borkh.), Portsmouth, S. Hants, 3.x.2003 (new to Hampshire); *Macdunnoughia confusa* (Steph.), 1.ix.2003.

WEDD, D. – Moths from the Aran Islands, Co. Clare, July 2003: *Setina irrorella* (L.), Inis Meain; *Photedes captivacula tincta* (Kane), Inisheer and Inis Meain.

WINOKUR, L. – Moths from Hampshire: *Lampropteryx otregiata* (D.&S.) and *Elaphria venustula* (Hb.), Newlands Plantation, New Forest, S. Hants, 13.vi.2003; *Atolus rubricollis* (L.) and *Melantheria procellata* (D.&S.), Black Wood, Woodman-cott, N. Hants, 20.vi.2003; *Helicoverpa armigera* (Hb.), found indoors, Southampton, S. Hants, 31.viii.2003; a confluent aberration of *Zygaena lonicerae latomarginata* Tutt, Southampton Common, 5.vii.2003.

WOOLDRIDGE, D. B. – Immigrant moths from Freshwater, IoW: *Lithosia quadra* (L.), 30.vii.2003; and *Trichoplusia ni* (Hb.), 26.vi.2003.

YOUNG, D. – Moths taken in 2003, including: *Xestia rhomboidea* (Esp.) and *Spilosoma urticae* (Esp.), E. Suffolk; *Heliothis virescens* (Hufn.) and *Lithostegia*

griseata (D.&S.), Maidscross Hill, Lakenheath, W. Suffolk; *Coenophila subrosea* (Steph.), Borth Bog, Cardigan, reared from larvae collected in May 2003; and *Idaea coutiguaria britaniae* (Müller), Dinorwig, Caernarvon, 5–12.vii.2003.

CHANNEL ISLANDS

HAYWARD, R. – A specimen of *Platyperigea kadenii* (Frey.) from Grouville Bay, Jersey, 18.ix.2003 – the first record from the island. Other moths from Jersey, September 2003, including from Grouville Bay: *Cyclophora puppillaria* (Hb.), 18.ix; *Rhodometra sacraria* (L.), 18.ix; *Ennomos autumnaria* (Wern.), 16.ix; *Agrius convolvuli* (L.), 18.ix; *Lithosia quadra* (L.), 16.ix; *Mythimna albipuncta* (D.&S.), 16.ix; *M. vitellina* (Hb.), 17.ix; *M. unipuncta* (Haw.), 16.ix; *Catocala electa* (View.), 17.ix; and *Hypeua obsitalis* (Hb.), 15.ix; and from La Corbière: *Scotopteryx peribolata* (Hb.), 18.ix; and *Heliothis peltigera* (D.&S.), 18.ix.

PEET, T. N. D. – Moths from Guernsey: *Cyclophora ruficiliaria* (H.-S.), Icart, 18.vii.2003; *Costaconvexa polygrammata* (Borkh.), Icart, 13.ix.2002; *Eupithecia ultimaria* (Boisd.), reared from larva on tamarisk, Vazon, viii.2001; *Crocallis dardouinaria* Donzel, Icart; *Coscinia cribraria* (L.), Forest, 16.viii.1992 (resident on Jersey); *Lacanobia splendens* (Hb.), Icart, 17.vii.2001; *Celaena haworthii* (Curt.), Icart, 17.viii.2001 (first Guernsey record); *Megalographa biloba* (Steph.), St Martins, 13.viii.2001; *Catocala electa* (View.), Forest, 18.viii.2003; *Platyperigea kadenii* (Frey.), Icart, 17.ix and 5.x.2003.

WEDD, D. – Moths from the Channel Islands, 2002–2003: *Thaumetopoea processionea* (L.), common in Jersey, up to 10 a night; *Cryphia algae* (Fab.), Grouville, Jersey, 6.viii.2003 (3) and 9.viii.2003 (2); *Scotopteryx peribolata* (Hb.), a series bred from females from Guernsey and Jersey, September 2002; *Agrotis syricola* Corti & Draudt, Grouville, Jersey, 10.ix.2002 (new to northern Europe) (Plate 13, Fig. 4); *Catocala electa* (View.), Grouville, Jersey, 7.viii.2003 (2) and 8.viii.2003 (2) (probably breeding in the Channel Islands); *Dendrolinus pini* (L.), Icart, Guernsey, 1.viii.2003 (leg. T.N.D. Peet); *Cyclophora ruficiliaria* (H.-S.), Grouville, 2003 (a recently recognised species that may be breeding in the Channel Islands); *Coscinia cribraria* (L.), very common on the sand dunes at La Pulente and Les Quennevais, Jersey; *Trachea atriplicis* (L.), well established on Guernsey, Jersey and Herm; and *Dryobota labecula* (Esp.), examples reared on evergreen oak and live examples from 2003.

BRITISH MICROLEPIDOPTERA

BEAUMONT, H. E. – *Choreutis pariana* (Cl.), Bishop Burton, Beverley (VC61), one of several 27.ix.2003 (M. Coverdale leg.), the first Yorkshire record. *Eidophasia messingiella* (F.v R.), one of two specimens from High Batts, Ripon (VC65) 11.vii.2003 (C.H. Fletcher leg.), the first Yorkshire record. *Acrolepia autumnitella* Curt., Potteric Carr, Doncaster (VC63), reared from mines in *Solanum dulcamara* collected 30.ix.2003 (with R.I. Heppenstall), new to Yorkshire. *Monochoia lutulentella* (Zell.), Owston meadows, Askern (VC63), 26.vii.2003, the first Yorkshire record. *Teleiodes sequax* (Haw.), Fordon chalk bank, Filey (VC61) reared from spinnings on *Helianthemum* collected 12.v.2003, the first VC61 record. *Psoricoptera gibbosella* (Zell.), one of two moths taken at Magdalens Wood, Ripon (VC65), 6.viii.2003 (C.H. Fletcher leg., det. HEB). The exhibitor also recorded a moth at Greno Wood, Sheffield (VC63), 6.viii.2003. New to Yorkshire and the first VC63 and VC65 records. *Sophrionia semicostella* (Hübner), Potteric Carr, Doncaster (VC63), disturbed by day 17.vi.2003; only the second VC63 record, the previous being as long

ago as 1837. *Gypsouonia oppressana* (Treits.), Sharow Mires, Ripon (VC64), two of several moths attracted to MV light 25.vi.2003 (C.H. Fletcher leg.), the first Yorkshire record. *Anerastia lotella* (Hübner), a small reddish specimen from Hatfield Moors, Doncaster (VC63), 4.vii.2003, a peatland locality, and typical of the few that have been recorded inland in Yorkshire. It closely resembles the specimen figured in Goater (1986, *British Pyralid Moths*) and contrasts with the much larger and paler moths (also exhibited) that are characteristic of marram-covered sand dunes on the Yorkshire coast. *Dioryctria simplicella* Hein., Hatfield Moors, Doncaster (VC63), 4.vii.2003, a very dark specimen with a typical moth for comparison.

BLAND, K. P. – *Stenoptilia milleridactyla* (Bruand), Blackford, Edinburgh (VC83), at lighted window 4/5.vii.2003, new to south-east Scotland. *Caloptilia cuculipennella* (Hübner), Rosemarkie, Black Isle (VC106), reared from larval cones on leaves of ash collected 28.vi.2003 (with M.R. Shaw), imagines emerged 14.vii.2003. Most northerly record. *Caloptilia syriugella* (Fabr.), Craigiefield, Mainland, Orkney (VC111), reared from larval mines in leaves of snowberry (*Synphoricarpos albus*) collected 16.vi.2003, imagines emerged 15.vii.2003. An unusual foodplant, there was an infected ash tree nearby. *Elachista alpinella* Staint., White Coomb, Dumfriesshire (VC72), larval mine on *Carex bigelowii* at 820m collected 12.vii.2003, a female emerged 30.vii.2003, females are rarely collected. Two local species: *Glyplipterix schoenicolella* Boyd, Belmaduthy, Black Isle (VC106), reared from seedheads of *Schoenus nigricans* collected 29.vi.2003, imago emerged 22.vii.2003. *Endonia alpina* (Curt.), Meall Buidhe, Perthshire (VC88), 25.vi.2003, abundant at 900m.

BROTHERIDGE, D. – From Avebury, North Wiltshire (VC7). A probable example of *Agriphila tristella* (D.&S.), lacking the pale median forewing streak, 10.viii.2003. *Capua vulgana* (Fröl.), a heavily marked, almost black, example, 31.v.2003. Two pyralid moths representing a second generation, *Orthopygia glaucinalis* (L.), taken 15.x.2003 and *Scoparia ambigualis* (Treits.) taken 14.x.2003, both undersized specimens.

BROWN, D. – *Diasemiopsis ramburialis* (Dup.), Studland, Dorset on an unspecified date in 2003.

BUTCHER, A. G. J. – From Grain, West Kent: *Euzophera osseatella* (Treits.), taken at actinic light in exhibitor's garden 8.viii.2003 (Plate 13, Fig. 10). Previous specimens have been reared from larvae in imported potatoes, this may be the first wild caught British specimen.

CLANCY, S. – *Aucylolomia tentaculella* (Hübner), Lydd, Kent, 16.vii.2003, the fourth British record. *Pediasia fasciellina* (Hübner), Littlestone, Kent, 25.vi.2003, the sixth Kent record. *Evergestis linubata* (L.), Greatstone, Kent, 14.vii.2003, the fifth Kent record. *Nomophila noctuella* (D.&S.), Littlestone, Kent, a heavily suffused specimen taken 25.ix.2003. *Diasemiopsis ramburialis* (Dup.), New Romney, Kent, 20.vii.2003, the first record from the area. *Dioryctria sylvestrella* (Ratz.), Greatstone, Kent, 7.viii.2003, probably an immigrant specimen.

CLARKE, J. – *Eurrhynx hortulata* (L.), Luffenham Heath, Rutland, 29.vi.2003, a specimen with suffused markings. *Udea uliginosalis* (Curt.), Cairngorm, Aviemore, Inverness, on boggy ground 22.vii.2003. *Dioryctria sylvestrella* (Ratz.), Tunstall, East Suffolk, 3.vii.2003. *Buckleria paludum* (Zell.), Matley Bog, New Forest, Hampshire, 31.vii.2003. *Pterophorus galactodactyla* (D.&S.), Crab/West Wood, Winchester, Hampshire, reared ex. larvae on burdock (*Arctium* sp.), 2003. *Pseluophorus heterodactyla* (Müll.), Cranham, Gloucestershire, reared ex. larvae on wall lettuce (*Mycelis muralis*), 2003.

COOKE, R. R. – *Evergestis linbata* (L.), Trigon, Dorset, reared ex. ova from female taken 18.vii.2002. *Oucocera semirubella* (Scop.), Portland, Dorset, 8.vii.2003. *Apomyelois bistriatella* (Hulst), Holt Heath, Dorset, 28.vii.2002.

DAVEY, P. – *Micropterix mansuetella* Zell., Alner's Gorse, Dorset, swept from sedges 14.v.2003. *Dichrorauplia sylvicolana* Hein., Rooksmoor, Dorset, disturbed from sneezewort 8.vii.2003, new to Dorset.

DAWSON, J. R. – *Eidophasia messingiella* (F. v R.), Barton, Cambs. (VC29), at MV light 14.vi.2003 close to an area of *Lepidium draba*, new to VC29. *Eucosma metzueriana* (Treits.), Canvey Island, Essex (VC18) two to MV light 16.vi.2003 (with Don Down). *Eucosma pauperana* (Dup.), Roman Road, Fulbourn, Cambs. (VC29), to MV light 29.iv.2000, a fairly common spring species in the Gog Magog Hills south of Cambridge. *Panuvane agnotana* Rebel, Roman Road, Fulbourn, Cambs. (VC29), 21.iv.2002, at rest at 11.00h, on old *Crataegus*. The locality is less than three miles from the 1982 record at Fleam Dyke (VC29). *Phlyctaenia perlucidalis* (Hübner.), Barton, Cambs. (VC29), three at MV light 14.vi.2003; recorded in slightly higher numbers at other known sites around Cambridge in 2003. *Euleioptilus carphodactyla* (Hübner.), Fleam Dyke, Balsham, Cambs. (VC29), two netted in an area with *Inula conyzae* on 20.viii.2003.

DOBSON, A. H. – From North Hampshire (VC12): *Coleophora geuistae* Staint., Bartley Heath Reserve, reared ex. cases on *Genista anglica* 17.v.2003. *Acleris logiana* (Cl.), Fleet, 21.i.2003 (leg. R.D. Edmunds) and Hook Common, at MV light 4.v.2003 (leg. T. Norris), the first VC12 records. *Plutella porrectella* (L.), Kempshott, Basingstoke, three specimens and cocoon representing three generations, 29.v., 17.vii. and 2.ix.2003 from the garden of G.A. Henwood.

ELLIOTT, B. – From Blair Atholl district, Perthshire in July 2003: *Catoptria permutatella* (H.-S.), fairly common in the area below Glen Fender. *Cranibus ericella* (Hübner.), very common on the higher slopes of Glen Tilt. *Cryptoblabes bistriga* (Haw.), Fenderbridge, one to MV light, perhaps a new VC record. *Catoptria falsella* (D.&S.), Fenderbridge, very common. From Hampshire: the local marshland pyrales *Donacaula forficella* (Thunb.) and *D. nuoronella* (D.&S.). *Depressaria douglasella* Staint., Southsea, reared specimens. *Eupoecilia ambiguella* (Hübner.), larval evidence at several localities in South Hants. in 2002. *Trifurcula beirnei* Pupl., Hayling Island, a strong colony located in an area rich in *Genista tinctoria* its putative pabulum, although larvae have not yet been found. *Monochroa elongella* (Hein.), after finding a freshly emerged moth sitting on *Potentilla anserina* a search revealed a pupal case (exhibited) extruding from a hollowed out root. This would appear to confirm the foodplant. *Ypsolopha horridella* (Treits.), Hayling Island, a few at MV light. *Yponomeuta sedella* Treits., Chandler's Ford, larvae abundant on a small patch of *Sedum telephium*, ix.2002. From Wiltshire: *Syncopacna cinctella* (Cl.) Tilshead, one at MV light (gen. det.).

GIBBS, D. J. – *Prochoreutis sehestediana* (Fabr.), Nagshead RSPB reserve, Glos. (VC34), 7.viii.2003, new to Gloucestershire. *Coleophora ochrea* (Haw.), Worley Hill, Somerset (VC6), 31.v.2003, the first Somerset record since 1908. *Aplota palpella* (Haw.), Highnam Wood RSPB reserve, Glos. (VC34), 4.viii.2003, new to Gloucestershire. *Argolaupotes nicella* (D.&S.), Culverhole Point, Devon (VC3), 26.vi.2003. *Metzueria aestivella* (Zell.), Worley Hill, Somerset (VC6), reared from earline thistle 17.v.2003 and second Somerset record, Pinhay Warren, Devon (VC3), 4.vi.2003. *Mirificarnia lentiginosella* (Zell.), Chew Valley Lake, Somerset (VC6), reared from dyer's greenweed 14.v.2003; only two recent Somerset records. *Endotheuia pullana* (Haw.), Chew Valley Lake, Somerset (VC6), 9.vii.2003, the only recent Somerset record.

HALL, N. M. – *Pachythelia villosella* (Ochs.), Studland, Dorset, larval case collected 7.vii.2003, from which a male moth emerged 18.vii.2003 (it had been expected to overwinter). *Celypha rosaceana* (Schlög.), Firehills picnic site, Hastings Country Park, East Sussex, 14.vii.2003. *Cochylis flaviciliana* (Westw.), Emmer Green, Oxfordshire, 4.vii.2003.

HART, C. – *Oxyptilus distans* (Zell.), Walberton, West Sussex, 3.x.2003 (leg. J.T. Radford, gen. det. CH). New to VC26 and the late date suggests that it must represent a third brood. Exhibited on behalf of J.T. Radford.

HECKFORD, R. J. – *Infurcitinea captans* Gozm. (Plate 13, Fig. 11), near Chapel Porth, West Cornwall (VC1), one of 64 specimens counted at five separate sites within a 1.5 km length of the north coast on 19 & 26.vii.2002, same locality (with P.H. Sterling) larvae amongst dead leaves of *Genista pilosa* and dead leaves of *Erica cinerea* 19.iv.2003, moth reared 2.vi.2003. Larva previously unknown in continental Europe, new to the British Isles. *Infurcitinea albicomella* (H.-S.), Torquay, South Devon (VC3) exhibited for comparison with *I. captans*. *Roeslerstammia erxlebella* (Fabr.), Crathie, South Aberdeenshire (VC92), 18.vi.2003, first VC92 record. *Levipalpus hepatoriella* (L. & Z.), Glen Callater and Gleann an t-Slugain, both South Aberdeenshire, larvae in silken tubes in soil near lower leaves of *Antennaria dioica* Gaertner 19 & 20.vi.2003 respectively, two moths reared 18.vii. & 11.vii.2003, respectively. Over 100 larval tubes were seen at Gleann an t-Slugain and over 40 at Glen Callater. A further 14 larval tubes were seen at three other localities, Glen Lui, Glen Clunie and Morrone Birkwood National Nature Reserve, all in VC92, between 19 & 22.vi.2003. All five localities are new sites for the species. Prior to 2003 there was only one record of the species from VC92, from Dinnet Muir on 22.viii.1971. *Metalampa italica* Bald. (Plate 13, Fig. 12), Plympton, Plymouth, South Devon, exhibitor's garden, 16.viii.2003, at light, new to the British Isles and hitherto unknown outside Italy. *Anatrachyntis simplex* (Wals.), Lee Mill, near Ivybridge, South Devon, larva found in calyx of pomegranate (*Punica granatum*), stated origin India, purchased at a superstore 22.xii.2001, moth reared 29.i.2002, an adventive species new to the British Isles. *Eriopsela quadrana* (Hübner), near Scar Close, Yorkshire (VC64), 30.v.2003, confirmed by dissection, the first Yorkshire record. *Catoptria margaritella* (D. & S.), Trowlesworthy Warren, South Devon, ova laid by captive females late July to early August 2002, larvae ate *Campylopus flexuosus* (Hedw.) Brid. then *Eriophorum angustifolium* Honk., moths reared 12 & 23.v.2003; larva previously unknown in the British Isles. *Endonia pallida* (Curt.), Gwithian Green, West Cornwall, larvae amongst *Calliergonella cuspidata* (Hedw.) Loeske 18.iv.2003, moth reared 17.vi.2003; larva previously unknown in the British Isles. *Endonia lineola* (Curt.), St Agnes, Isles of Scilly (VC1), larvae under *Xanthoria parietina* (L.) Th. Fr. 4.v.2003, moths reared 1 & 10.vi.2003.

HENWOOD, B. P. – *Semioscopis steinkellneriana* (D. & S.), Chudleigh Knighton Heath, South Devon (VC3), at MV light 4.iv.2003 (with R. McCormick & W. Deakins). *Monochroa niphognatha* (Gozm.), Jetty Marsh, Newton Abbot, South Devon (VC3), at MV light 5.vii.2002 (with W. Deakins & S. Mitchell), gen. det. R.J. Heckford, previously known in Britain only from one site in Kent. *Ancyliis laetana* (Fabr.), Hannaborough Moor, near Hatherleigh, North Devon (VC4), at MV light 31.v.2003 (with R. McCormick). *Endothenia ustulana* (Haw.), Dainton, near Newton Abbot, South Devon (VC3), larva in *Ajuga reptans* collected 4.v.2003, moth emerged 27.v.2003. *Loxostege sticticalis* (L.), Dawlish Warren, South Devon (VC3), at MV light 20.ix.2003 (with J. Walters & W. Deakins). *Euleioptilus carphodactyla* (Hübner), Dainton, near Newton Abbot, South Devon (VC3), pupa in flower-head of *Inula conyzia* 8.viii.2003, moth emerged 13.viii.2003.

KNILL-JONES, S. A. – Microlepidoptera from the Isle of Wight (VC10) including, from Totland: *Ethmia bipunctella* (Fabr.), 7.viii.2003. *Pediasia contaminella* (Hübner), 21.vii.2003. *Nacia ciliaris* (Hübner), 7.viii.2003, new VC10 record. *Acrobasis tumidana* (D.&S.), 16.vii.2003, new VC10 record. *Assara terebrella* (Zinck), 11.vii. & 26.viii.2003, new VC10 record. *Diasemiopsis ramburialis* (Dup.), 9.x.2003.

KOLAJ, A. – Ventnor, Isle of Wight (VC10), 15–22.viii.2003. *Evergestis limbata* (L.), four, *Evergestis extimalis* (Scop.), one 20.viii.2003. *Palpita vitrealis* (Rossi), at least eight 20–22.viii.2003.

LANGMAID, J. R. – *Psamatthocrita argentella* P.&M., Southsea, Hampshire, a series of six reared from seeds of *Elytrigia atherica* collected 10.ix.2002, moths emerged vi.2003. The first time that this species has been reared. *Blastobasis lignea* Wals., Southsea, Hampshire, 10.vii.2003, a specimen with white ground colour. *Cuephasia asseclana* (D.&S.), Brixton Deverill, Wiltshire, 18.vii.2003, a uniformly beige coloured specimen.

MCCORMICK, R. F. – Interesting moths from Devon in 2003 (the specimens exhibited were not necessarily the ones on which the records were based): *Ethmia dodecea* (Haw.) Branton, 25.vi.2003, S. Hatch and Teignmouth, 9.vii.2003. *Cochylis molliculana* Zell., Since the first sighting of this species at Berry Head a few years ago, it has spread to Exmouth where it was taken in numbers on 7.vii.2003 and Weycroft, Axminster where one was seen on 9.viii.2003. *Ancylis laetana* (Fabr.), seen, with confirmed specimens, for the first time in Devon at Hannaborough Moor on 31.v.2003, where five or six specimens were seen by B.P. Henwood and the exhibitor. There is one vague record from Branton in 1932. *Epiblema foenella* (L.), seen at Exmouth on 4.vii.2003, but more surprisingly at Teignmouth on 27.vii.2003. *Crambus silvella* (Hübner), Offwell Wildlife and Woodland Trust site near Honiton, 5.viii.2003, new to Devon. Further work to find the breeding site was carried out without success. *Evergestis extimalis* (Scop.) Holcombe, 18.vii.2003. *Evergestis pallidata* (Hufn.), Offwell Wildlife and Woodland Trust site, 26.vii.2003 and at Weycroft, Axminster on 9.viii.2003, a rarely seen species in Devon. *Pyrausta cingulata* (L.), Branton Burrows on 9.viii.2003, another seldom seen species. *Aglossa pinguinalis* (L.), another species with few records, taken at Woodbury Salterton on 23.vii.2003. *Galleria mellonella* (L.) Hatherleigh, 4.viii.2003, despite all the bee keeping that goes on in Devon this species is rarely reported. *Oncocera semirubella* (Scop.), Humble Green Point, near Lyme Regis on 19.vii.2003, flying in abundance during the day. *Epischia banksiella* Rich., Soar Mill Cove a small larva on *Inula crithmoides*, 20.ix.2003 (R.J. Heckford), the second Devon record. *Nephopterix angustella* (Hübner), Bere Alston, 8.ix.2003 – there are only three records of this species since 1962, despite searches being made no signs of feeding in spindle berries have been found. *Euzophora bigella* (Zell.), Teignmouth, at light, 7.vi.2003, the second record for Devon, the first being of two specimens reared from pomegranate in ix.1999. *Capperia britanniodactyla* (Gregs.), Branscombe, 14.vi.2003, a species with less than ten records since the 1980s. *Oidaematophorus lithodactyla* (Treits.), Dawlish Warren, larvae were found commonly feeding on fleabane 6.vi.2003, moths reared.

NASH, S. – *Epichoristodes acerbelli* (Walk.), Fernham, Oxon (VC22), at MV light 26.vii.2002; the second wild caught British specimen, the first being at Charlton, London in 1979 by A. A. Allen (*Entomologist's Rec. J. Var.*, 92:33). *Phyllonorycter platani* (Staud.), Swindon, Wiltshire (VC7), larval mincs on *Platanus x hispanica* 20.x.2003, new to Wiltshire. *Maruca vitrata* (Gey.), Swindon, Wiltshire (VC7), larva in packet of Zambian green beans purchased in a supermarket 25.iii.2003, moth emerged 6.iv.2003. *Cydia molesta* (Busck), Swindon, Wiltshire (VC7), reared from an organic

Italian peach purchased in a supermarket 12.ix.2003. *Agriphila tristella* (D.&S.), Durlston Country Park, Dorset, an extreme aberration taken 19.ix.2003. *Cydia fagiglandana* (Zell.), Fernham, Oxon (VC22), a melanic specimen taken 30.v.2003.

OWEN, J. – *Haimbachia cicatricella* (Hübner), Dymchurch, Romney Marsh, Kent (VC15), a specimen taken in 2003, the second from the exhibitor's garden, the first being 27.vii.2001.

PARSONS, M. S. – From Dorset: *Caryocolum vicinella* (Dougl.), Abbotsbury, reared from larvae collected 23.iv.2003. *Anarsia lineatella* Zell., Walditch, 15.vii.2003. *Dichomeris alacella* (Zell.), Shaggs, 22.vii.2003. *Blastobasis phycidella* (Zell.), Bridport, reared ex pomegranate 12.ii.2003. *Sclerocona acutellus* (Evers.), Walditch, 14.vii.2003. From Wiltshire: *Gymnidimorpha luridana* (Gregs.), Tilshead, 19.vii.2003. From West Sussex: *Mompha terminella* (Humph.&West.), Rewell Wood, 25.vi.2003. From Inverness-shire: *Lampronia fuscata* (Tengst.), Tulloch Moor, to MV light 31.v.2003. *Aethes piercei* Obr., Tulloch Meadow, 31.v.2003. *Grapholita humilana* (D.&S.), Tulloch Meadow 31.v.2003. *Udea decrepitalis* (H.-S.), Loch Arkaig, 2.vi.2003. From Perthshire: *Archinemapogon yildizae* Koçak, Finnart, Loch Rannoch, collected 30.v.2003, reared 4.vi.2003.

PATTON, S. J. – From Stedham Common, Midhurst, West Sussex (VC13), 16.viii.2003: *Crambus hamella* (Thunb.), *Agriphila latistria* (Haw.), *Dioryctria simplicella* Hein.. From Kingsham, Chichester, West Sussex (VC13): *Nephopteryx angustella* (Hübner), 8.viii.2003. The species occurs regularly in small numbers despite the apparent absence of spindle in the area. *Pyransta nigrata* (Scop.), summer 2003, the first record from the exhibitor's garden. *Ephestia kuehniella* (Zell.), 1.viii.2003, one emerged from stored bird food, others occasionally seen. From Pagham Harbour, West Sussex (VC13): *Stenoptilia zophodactylus* (Dup.), 12.viii.2003, from a colony of this plume moth.

PEET, T. N. D. – Species from the Bailiwick of Guernsey: *Coleophora anatipennella* (Hübner), Sark, reared from a larval case on *Prunus domestica*, vi.2003. This species was rediscovered on Guernsey in 2002 and is the first record from Sark. *Ethmia bipunctella* (Fabr.), Icart, Guernsey, 15.viii.2003, the first Bailiwick record. *Nephopteryx angustella* (Hübner), Guernsey, viii., ix.2003, over twenty individuals noted during a period of intense migrant activity. The first island record was a singleton in 2002.

PHILLIPS, J. W. – *Crambus silvella* (Hübner), Matley Bog, New Forest, Hampshire, 2003. *Catoptria margaritella* (D.&S.), Trawsfynydd, Merionethshire, 2003. *Evergestis extimalis* (Scop.), Northney, Hayling Island, Hampshire, 2003.

PORTER, J. – Scarce and local species from Surrey (VC17): *Lampronia fuscata* (Tengst.), Thursley, reared from gall on *Betula pendula* collected 22.iii.2003. *Nemapogon wolffiella* Karsh. & Niel., Headley Warren, 8.viii.2003. *Phyllonorycter strigulatella* (Lich. & Zell.), Burpham, reared ex larval mines on *Ahnus incana* collected 19.x.2002, new to VC17. *Phyllonorycter comparella* (Dup.), Bookham, tapped from *Populus canescens* 26.vii.2003. *Glyphipterix haworthana* (Steph.), Lightwater, reared from *Eriophorum* seed-heads collected 15.iii.2003. *Tinagma ocnorostomella* (Staint.), Headley Warren, 13.vi.2003. *Argyresthia abdominalis* (Zell.), Shere, 13.vi.2003. *Mompha locupletella* (D.&S.), Brook, 30.v.2003. *Acleris shepherdana* (Steph.), Burpham, reared ex larva on *Filipendula ulmaria* collected 10.vi.2003. From Kent: *Agonopterix putridella* (D.&S.), Graveney, reared ex larva on *Pencedamm officinale* collected 14.vi.2003. *Agonopterix enicella* (Treits.), Sandwich, reared ex larvae on *Eryngium maritimum* collected 14.vi.2003.

ROUSE, T. – Specimens from The Warren, Folkestone, Kent: *Diasemiopsis ramburialis* (Dup.), 12.viii.2003. *Nomophila noctuella* (D.&S.), 7.ix.2003, a specimen showing a complete lack of scales on parts of both forewings. *Pempeliella ornatella*

(D.&S.), reared from a female taken in 2002, emerged 26.vi.2003. The female was placed on potted *Thymus drucei* in August 2002 but there was no sign of larval feeding until spring 2003. A fine mesh of silk was noted among the roots of the plant, particularly noticeable when covered by dew early in the morning. The exuviae was not visible after emergence but was found by looking under the thyme leaves.

SIMS, I. – *Ectoedemia louisella* (Sirc.), Medmenham, Bucks. (VC24), mines in keys of *Acer campestre* at two sites, 8.vi. & 16.viii.2003. Feeding site and cocoons exhibited, adults emerged 1 & 30.viii.2003. *Epichopterix plimella* (D.&S.), Hainault Forest, Chigwell Row, Essex, case swept from grasses 3.iv.2003, female emerged 16.iv.2003. *Epichopterix retiella* (Newm.), South Benfleet and Fobbing marshes, Essex, cases swept from saltmarsh grasses 31.iii.2003, males emerged 17.iv.2003. *Campteria ochridella* Desch. & Dem., Medmenham, Bucks., larval mine with pupal exuviae on white-flowered *Aesculus hippocastanum*, 26.ix.2003, first VC24 record. *Coleophora maritimella* Newm., Fobbing marsh, Essex, larval cases on *Juncus gerardii* 31.iii.2003, adults emerged 28.v.2003. *Coleophora adjunctella* Hodgk., Fobbing marsh, Essex, larval cases on *Juncus gerardii* 31.iii.2003, adults emerged 4.vi.2003.

STUBBS, A. – *Lyonetia clerkella* (L.), mines in *Prunus laurocerasus* cultivar 'Otto Luyken', locality not stated. Although there does not appear to be any record from laurel in British reference works, Dr Keith Bland recently informed the exhibitor that he had reared *L. clerkella* from similar mines on laurel in Scotland.

WEDD, D. – From Guernsey, Channel Islands: *Epischmia banksiella* Rich., L'Erée, dark, second brood examples (gen. det. P.H. Sterling). The species is only single brooded in England, the latest date it was recorded on Guernsey was 1.ix.2002. From Henley-on-Thames, Oxfordshire: *Ostrinia umbilalis* (Hübner.), two of four specimens recorded at actinic light in vi.2003. *Thiodia citrana* (Hübner.), two of several specimens seen beside the Fairmile, Henley in vi.2003, not previously seen in the area. From the Burren and Aran Islands, early vii.2003: *Clepsis rurinana* (L.), Leigh South, the Burren, three to MV light, a fourth was recorded at Inis Meain, Aran Islands. *Pyrausta sanguinalis* (L.), Inisheer and Inis Meain, Aran Islands and the Burren, many flying by day and recorded at MV light. *Anania funebris* (Ström.), numerous in the Burren, especially by Lough Bunny and on the south side of Inis Meain.

WINOKUR, L. – *Grapholita molesta* (Busck), a female reared from a mature larva in a nectarine of northern Italian origin purchased 12.ix.2003 from a supermarket at Shirley, Southampton, Hampshire (VC11). It pupated on 17.ix and the moth emerged 28.ix.2003, identity confirmed by K.R. Tuck (Natural History Museum). The third example known to have been reared in Hampshire from imported fruit.

YOUNG, D. – *Dioryctria sylvestrella* (Ratz.), a recent addition to the British list which is now well established in East Anglia and increasingly recorded in the southern counties of England.

FOREIGN LEPIDOPTERA

CLINTON, J. – Moths taken at Salviac, Lot, France, vii.2003. *Cyclophora ruficiliaria* H.-S., *Actinotia polyodon* Cl., *Zanclognathia humilis* Scop., *Aplasta ononaria* Fuessly, *Thalera funibrialis* Scop., *Emmelia trabealis* Scop., *Eublemma ostrina* Hb., *Proxenus hospes* Freyer, *Fagivorina arenaria* Hufn., *Dysgonia algira* L., *Acrionicta anricoma* D.&S., *Moma alpinum* Osbeck, *Trachea artiplicis* L. and *Lygephila cracca* D.&S., *Phyllodesma ?suberifolia* L., *Dendrolimus pini* L. & *Harpyia millianseri* F.

CORLEY, M. F. V. – Portuguese Catocalinae, the noctuid subfamily Catocalinae (in the sense used by Karsholt & Razowski, *The Lepidoptera of Europe*, 1996) is

largely tropical and subtropical, although there are a few species even in cool temperate zones. In consequence there are significantly more species in southern than in northern Europe. In Portugal, 36 species have been recorded. This compares with 18 genuine British species. 24 of the 36 Portuguese species were exhibited: *Catocala fraxini* L., *C. dilecta* Hb., *C. elocata* Esp., *C. mupta* L., *C. conjuncta* Esp., *C. promissa* D.&S., *C. optata* Godart, *C. nymphagoga* Esp., *C. mariana* Rambur, *C. conversa* Esp., *Ophiura tirhaca* Cramer, *Clytie illunaris* Hb., *Minucia lunaris* D.&S., *Cerocala scapulosa* Hb., *Grammodes bifasciata* Petagna, *Dysgonia algira* Hb., *Autophila cataphanes* Hb., *Lygephila cracca* D.&S., *Drasteria cailino* Lefèbvre, *Tyta luctuosa* D.&S., *Catephia alchymista* D.&S., *Aedia leucomelas* L., *Euclidia glyphica* L. and *Zethes insularis* Rambur. Many of these species are widely distributed in Portugal, usually extending over most of Europe or at least the whole Mediterranean region, although *Catocala optata*, *C. mariana* and *Clytie illunaris* are confined to the western Mediterranean area. A few species (*O. tirhaca*, *C. scapulosa* and *A. leucomelas*) have a more restricted distribution, being confined to southern Portugal, particularly to coastal areas. Nine of these species have larvae feeding on *Quercus*, five on *Salix* or *Populus*, three on species of Fabaceae, three on *Convolvulus*, and the other four on other plants (*O. tirhaca* on *Pistacia*, *C. scapulosa* on *Halimium* with larvae spending the days in the sand below the plant, *C. illunaris* on *Tamarix* and *D. algira* on *Rubus*). *Autophila cataphanes* hibernates in the adult stage, often in buildings. *Catocala elocata* is often found aestivating in caves or rock clefts. *Euclidia glyphica* is day-flying. *Tyta luctuosa* flies equally readily by day or night. Many other species are readily disturbed by day. At night few of them come readily to light, and many are often most easily caught at sugar or wine ropes. The remaining Portuguese species are *Catocala sponsa* L., *C. oberthuri* Austaut (possibly a misidentification), *C. puerpera* Giorna, *C. nymphea* Esp., *Dysgonia torrida* Gn., *Prodotis stolidus* F., *Lygephila pastinum* Treit., *Tathorhynchus exsiccata* Lederer, *Apopestes spectrum* Esp., *Autophila dilucida* Hb., *Pandesma robusta* Walker and *Calistege mi* Cl. Of these *D. torrida*, *P. stolidus* and *P. robusta* are known only from single records, and like *T. exsiccata* are probably scarce migrants.

CRONIN, A. R. – Eight species from San Pablo, Manila, Philippines, iv.2002, including the butterflies *Precis hedonia* L., *Ypthima huebneri* Kirby, *Appias libythea* F. and a *Eurema* sp. and an *Asota* sp. of moth.

HALL, N. M. – (1) Moths from Spain.

Noctuidae: (i) *Araeopteron ecphaea* Hampson, Cala Medio Luna, Parque Natural (P.N.) Cabo de Gata, Almería, 7.vii.2001. El Saler, P.N. La Albufera, Valencia, 16.vi.2003. This is a 'micronoctuid' reported as new to the West Palaearctic from Greece, Turkey & Spain (including Mallorca) by M. Fibiger & D. Agassiz in *Nota Lepidopterologica*, 24: 29–35, 2001. The specimen from Cala Medio Luna was taken in 2001. NMH had no idea what it was at the time, but it is very distinctive, sitting with the wings spread and the dark hindwings visible, and the El Saler specimen, taken in 2003, was recognised instantly. Fibiger & Agassiz listed only two previous records for mainland Spain.

Bred Sterrhinae: (ii) *Idaea calmetaria* Stmgr. From gravid female, El Torn, L'Hospitalet del Infant, Tarragona, 9.vi.2003, F₁ emerging viii.2003. (iii) *I. sardonata* Homberg. From gravid females, El Torn, L'Hospitalet del Infant, Tarragona, 9.vi.2003. F₁: ix, x & xi.2003. The 'blinding white' vertex is one of the most distinctive features of the moth. (iv) *I. deitanaria* Reisser & Weisert. From gravid female, Cala Bordonares, Mojácar, Almería. F₁, ii & iii.2003. This is a fairly common, very small *Idaea* occurring in the south of Spain. (v) *I. carvalhoi* Herbulot. From gravid females, Cala Bordonares, Mojácar, Almería, 9.ix.2002. F₁,

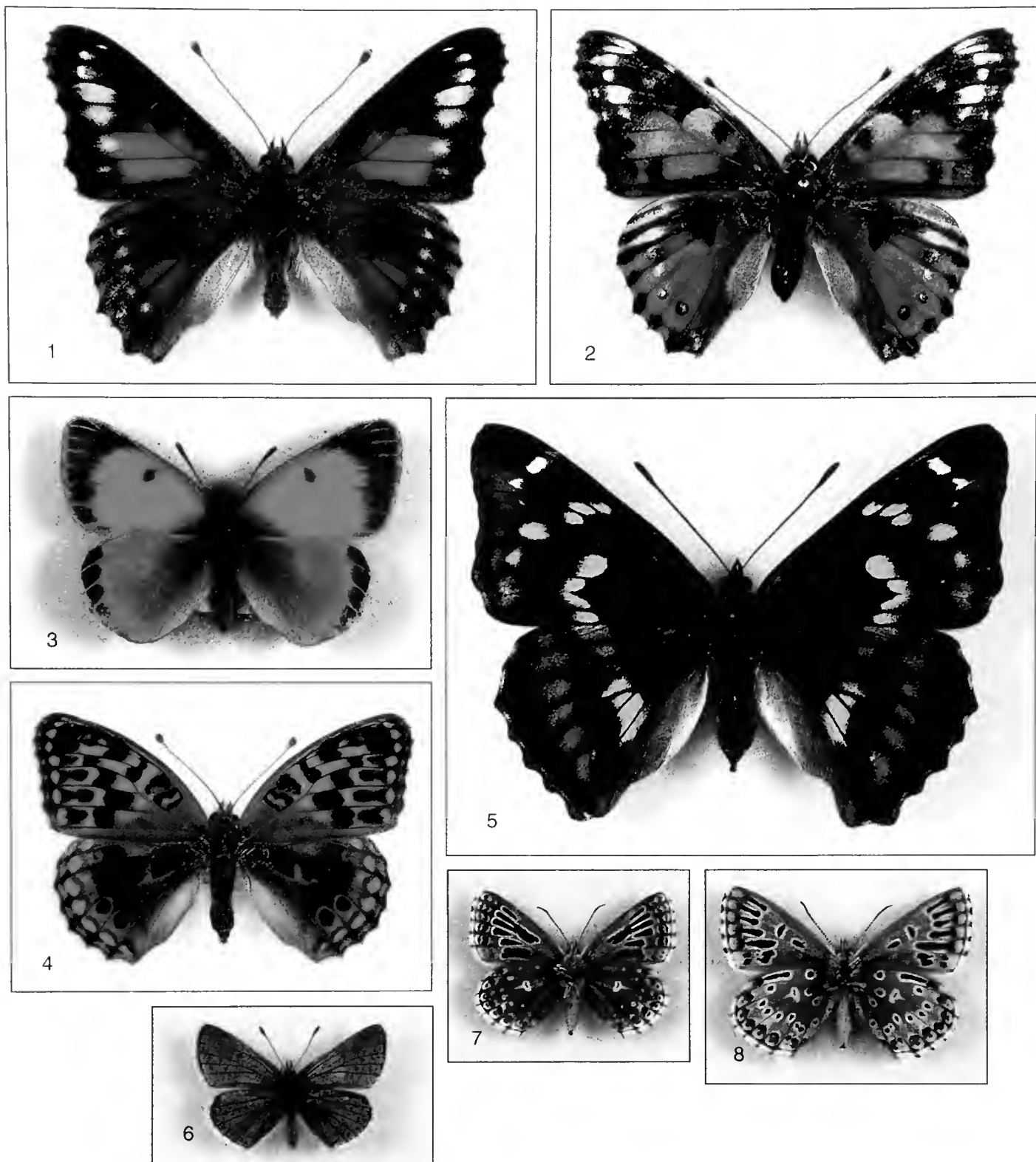


PLATE 12. BENHS Annual Exhibition. Imperial College. 11 November 2003

1: *Vanessa cardui*, ab. *elymi*, bred, high temperature shock, K.E.J. Bailey. 2: *Vanessa cardui* ab. *rogeri*, Great Shelford, Cambridge, 14.vii.2003, L. McLeod. 3: *Colias croceus* ab. *cremonae* + ab. *faillae*, bred, Dorset, A.S. Harmer. 4: *Argynnis adippe* ab. *pepida*, bred, temperature experiment, ex purchased stock, P. Tebbutt. 5: *Apatura iris* ab. *transtenuata*, bred, high temperature shock, K.E.J. Bailey. 6: *Polyommatus icarus*, dark ab., bred F2 ex Surrey female, 17.x.2003, A.M. Jones. 7: *Polyommatus bellargus*, ab. *subtus-partim-radiata*, Dorset, viii.2003, A. Butler. 8: *Lysandra bellargus*, ab. *conjuncta*, Wiltshire, viii.2003, C. Luckens.

All illustrations are life size. Photographs by Richard A. Jones.

vi, vii & viii.2003. (vi) *I. saleri* Domínguez & Baixeras. From gravid females: El Torn, L'Hospitalet del Infant, Tarragona, 9.vi.2003 and from the type locality El Saler, P.N. La Albufera, Valencia, 15.vi.2003. F₁: ix.2003. Distinguished from *I. carvallhoi* Herbulot, another 'blackish' *Idaea*, by the absence of white scales on the vertex and the double line of angular spots on the abdomen. *Idaea carvallhoi* has diffuse blackish spots on the centre-line of the abdomen. The abdominal pattern should be examined in live specimens since abdomens may shrivel, distort or grease up in time. This is important because white scales on the vertex could have been worn away. Adults of *saleri* and *carvallhoi* both lose scales quickly from the wings, which then look dark brown and the crosslines are more apparent. With dark brown specimens there is also a small possibility of confusion with dark forms of *I. longaria* H.-S., but *longaria* has a distinct series of dashes on the centre-line of the abdomen. (vii) *I. incisaria* ssp. *albarracina* Reisser. From a female, Sierra de la Creu, Tarragona, 11.vi.2003, F₁ emerging viii.2003. The ground colour of the wings is chalky white and the abdomen has three parallel (longitudinal) bands of black dashes. (viii) *I. incisaria* Stdgr. These moths were bred by Gareth King, who lives in Madrid, from a female caught in Madrid Province. They were included for comparison with ssp. *albarracina*. (ix) *I. minuscularia* Ribbe. From gravid female: Punta Umbria, Huelva, 3.ix.2002. F₁:xi.2002. (x) *I. infirmaria* Rambur. Female: El Saler, P.N. La Albufera, Valencia, 15.vi.2003. F₁:11.ix.2003. A spotted form.

Dissected Sterrhinae: (xi) *Idaea urcitana* Agenjo. Cala Medio Luna, 6.ix.2002 & Barranco de las Agüillas, Las Negras 7.ix.2002. P.N. Cabo de Gata-Níjar, Almería. *I. urcitana* is considered to be very rare. An unusual feature is that the tarsi of the male hindlegs are much longer than the tibiae. (A. Hausmann, pers. comm.). (xii) *I. rhodogrammaria* Püngeler. Porta Coeli, Valencia, 8.vii.1991. (xiii) *I. rainerii* Hausmann. El Pozo del Esparto, Almería, 2.v.1999. (xiv) *I. obsoletaria* Rambur. Mini Hollywood, Almería, 11.vii.2001. A dark autumnal form. (xv) *I. korbi* Püngeler. Sierra de Baza (1800m), Granada, 30.vi.1994. (xvi) *I. figuraria* Bang-Haas. Prádena, Segovia, 5.vii.1994. (xvii) *I. figuraria nevadata* Wehrli. Rta de Valeta (2500m), Granada, 2.vii.1994. (xviii) *I. consanguiniberica* Rezbanyai-Reser & Expósito. Biel, Zaragoza, 22.viii.1990. A female. (xix) *Cyclophora hyponoea* Prout. Biel, Zaragoza, 5.vi.2003. (xx) *C. ruficiliaria* H.-S. Parque Provincial Garaio, Alava, 26.vi.2001. Most illustrations of *ruficiliaria* are of the form with the distinct grey crosslines. The form exhibited had weak crosslines.

Other Geometridae: (xxi) *Crocallis dardoinaria* Donzel. Bred from a female, Puerto de los Blancos, Granada, 5.ix.02, F₁ emerging v & vi.2003. Unusual forms (see Plate 13, Fig. 13). The larvae were fed on *Cistus*, a foodplant listed by L'Homme. The genitalia match those illustrated by Dantart, Domínguez & Baixeras, *Nota Lepidopterologica*, 15:195–216, 1993. (xxii) ?“*Semiothisa*” *pulinda* Walker, Punta Umbria, Huelva, 3.ix.2002. The specimen was dissected but it was a female and no drawings could be found of the female genitalia. Arctiidae: (xxiii) *Eilema ruggsi* Toulgoët. El Saler, P.N. La Albufera, Valencia, 15 & 16.vi.2003 & Cullera, Valencia, 8.viii.1994.

(2) Moths from France. Arctiidae: (i) *Lithosia quadra* L. A weakly marked female from Petit Niort, Charente-Maritime, 1.x.2003. Dissected Sterrhinae: (ii) *Cyclophora ruficiliaria* H.-S. & (iii) *C. quercimontaria* Bastelberger, both from Forêt de Vacheresse, Voussac, Allier, 26.vii.1995.

(3) Sterrhinae from Andorra & the Canary Islands: (i) ?*Glossotrophia rufomixtaria* Graslin. Sta Julia de Loria, Andorra, 4.vii.1983. At campsite lights. The identification was not positive but examination of the hind tibiae shows that the genus is *Glossotrophia*—and *rufomixtaria* has a type locality in the Pyrenees. (ii)

I. vilaflorensis Rebel. Bred from a gravid female: Jandía, Fuerteventura, xii.2002. F₁: v.2003. This is endemic to the Canary Islands and is not uncommon.

(4) A recommendation to use glass tubes to examine certain moths (especially Sterrhinae & Geometrinae) before transferring to a killing jar.

NMH is interested in the problems of identifying Sterrhinae ('Waves') in the field, and in picking out females for breeding. He routinely puts freshly caught Sterrhinae into 1" diameter glass tubes and looks at them carefully through a headband magnifier, males and females can often be easily and unambiguously separated by looking for spurs on the hind tibiae. All female *Scopula* have four spurs—two terminal and two median. Male *Scopula* usually have specialised hindlegs with no spurs at all, though some do have spurs. Female *Glossotrophia* have two terminal spurs only, whereas male *Glossotrophia* have unspecialised hindlegs with at least one terminal spur. Female *Idaea* have two terminal spurs. About one-quarter of male *Idaea* in Europe also have two terminal spurs, so in these species examination of the abdomen and antennae may be necessary to separate male and female—but the remaining male *Idaea* mostly have specialised hindlegs without spurs, often with thickened or decorated hind tibiae, and the male/female difference is obvious. The relative lengths of the tibiae and the tarsi varies from species to species and can often be used to separate difficult pairs. It is very easy to look at the hindlegs from below while the moth is alive in the 1" tube and can still be released. It sits with the legs spread out as one might expect, and there is no difficulty in deciding which legs are the hindlegs. Once a moth has been set, although it is always *possible* to look at the hind tibiae (unless both hindlegs were lost in the setting) it can be remarkably difficult to determine which leg is which if they are all higgledy-piggledy. Usually it is necessary to remove all the labels and manoeuvre the specimen upside-down under a binocular microscope—putting it at some risk of physical damage (such as losing more legs). NMH exhibited two *Scopula minorata* Bsdv., one male one female, set upside down to try to display the legs: *Scopula minorata* both bred from the same female, El Saler, P.N. La Albufera, Valencia, 15.vi.2003. F₁: 8.viii.2003.

(5) Further hints concerning the use of 1" glass tubes: (i) It is very easy to see the colour of the frons ('between the eyes') when a moth is in a glass tube. This can for example be used to distinguish the very similar green moths *Kuchleria insignata* and *Bustilloxia saturata* (Geometrinae), where the frons is green and red-brown, respectively. *Kuchleria insignata* Hausmann, Barranco de las Agüillas, Las Negras, P.N. Cabo de Gata-Níjar, Almería, 7.ix.2002 and *Bustilloxia saturata* Bang-Haas, Pta dels Corals, Valencia, 14.ix.1992. (ii) NMH sometimes persuades very large 'flighty' moths such as catocalids to dive into 1" tubes. They fit so tightly that they cannot flap and damage their wings. Since they can be shaken directly from the tube into a killing jar they usually end up in remarkably good condition. (iii) NMH transfers moths from the 1" tubes to his wide-necked killing jar through a funnel made from the necked part of a 2-litre plastic lemonade bottle. This is 1" diameter at one end and can be pushed onto the rim of the killing jar at the other. Nothing can escape!

HONEY, M. R.—Moths of Mallorca. A selection of moths taken recently on Mallorca in the middle of a 1700 hectare reed-bed (s'Albufera de Mallorca), including some species familiar to lepidopterists in Britain (at least as migrants) and others that are not so familiar (even to the exhibitor). Including *Eucretia marginata* Haw., *Spodoptera ciliata* Gn., *S. exigua* Hb., *Helicoverpa arutiger* Hb., *Pachycnemia hippocastanaria* Hb., *Mecynotus asialis* Hb., *Schrankia costaeistrigalis* Stephens, *Acleris variegata* D.&S., *Spoladea recurvalis* F., *Ptocheusa paupella* Z., *Plathorinaea operculella* Z. and *Mythimna loreyi* Dup.



Graham Howarth with a fellow member

HOWARTH, T. G. – Illustrations of females of *Euphydryas cyuthia* D.&S., showing variation within a population on Mt Balme de la Frema, La Colmiane, St Martin Vesubie, Alpes–Maritimes, France, 7000 ft, late June to July.

These specimens were mentioned in TSH's address "Collecting Lepidoptera in the South of France 1950 & 1951", *Proc. S. Loud. Ent. Nat. Hist. Soc.*, **1952–53**: 52–65. The photograph, ex. A. Simmons, University Museum Edinburgh, was by courtesy of Dr Mark Shaw and the trustees of the National Museums of Scotland.

LUCKENS, C. – (1) Butterflies collected in Scandinavia 10–24.vi.2003. The following species were exhibited: *Oeneis jutta* Hb., *O. uornia* Thunb., *Erebia eubla* Thunb., *E. disa* Thunb., *E. pandrose* Borkh., *Coeuonympha tullia* Müll., *Clossiana seleue* D.&S., *C. euphrosyne* L. (with f. *fungal*), *C. freija* Thunb., *C. frigga* Thunb., *Proclossiana emmouia ossiana* Herbst, *Mellicta athalia* Rott., *M. britouartii* Assman, *Agrodiaetus auranda* Schneider, *Eumetopia eumedon* Esp., *Pyrgus centaureae* Rambur, *Carterocephalus silvicolus* Meigen, *Colias palaeno* L. and *C. uastes werdandi* Zett.

C. Derry and C. Luckens crossed to Denmark on 9.vi.2003 and by the following morning were collecting in Dalarna, central Sweden. They found, almost immediately, a fine wooded area where *C. silvicolus* was common (~60 in 3 hours) along with *C. euphrosyne*, *C. seleue*, *Leptidea sinapis* L., *Coeuonympha arcania* L. and *Melitaea dianina* Lang. Further north, the same day, not far from Lake Siljan, *Coeuonympha hero* L. was locally common. They then travelled to Lake Isteren in Norway where *Clossiana frigga* and *Erebia eubla* were just emerging on a large boggy area. Then back to Dalarna, Sweden, to a riverine peat moss for the first *Colias palaeno*, *C. euphrosyne* and *P. emmouia ossiana*, before returning to Norway to complete their sampling of *eubla* and *frigga*. The latter fritillary is reputedly local and scarce but over 50 were seen on the second visit to Lake Isteren – also a few freshly emerged *Pyrgus centaureae*. They then moved north to Gargia, Finnmark,

and camped at around 300m on Gronasen. The first butterflies were found flying before 7.00h local time on 20.vi – *Oeneis norna*, *Erebia disa* and *Clossiana freija*. Spending a further day in fine weather on Gronasen they only added *Erebia pandrose*, and numbers of all species were low. At Abisko, early in the morning of 22.vi, numerous *Colias nastes* were seen racing over the marsh. *C. freija* were about in good numbers and there were also a few *O. norna*, *E. disa*, *E. pandrose* and *P. centaureae*. CD caught a single fresh *Euphydryas idmua* Dalman – but it was clearly too early for most 'arctics'. *Parnassius mnemosyne* L. was found flying in a locality on the way south and then they made for Småland in southern Sweden. Wooded areas west of Oskarshamn produced *M. athalia*, *M. britomartis* and *A. amanda*, but *Limnitis populi* L. which is locally common in this area failed to show up.

(2) Butterflies collected in Central Spain & Algarve, 13–24.iv.2003.

The following species were exhibited: *Maniola jurtina* ssp. *hispulla* Esp., *Melanargia ines* Hoffmannsegg, *Melitaea aethere* Hb., *Melicta deione rosinae* Rebel, *Aricia cramera* Eschscholtz, *Glaucopsyche melanops* Bsdv., *Pseudophilotes abencerragus* Pierret, *Cupido lorquini* H.-S., *Zegris eupheme* Esp., *Euchloe crameri* Butl., *E. tagis* ssp. *castellana* Verity, *E. belemia* Esp., *Zerynthia rumina* L. CL drove through France and northern Spain arriving in the area east of Madrid in the early afternoon of the 13.iv.2003. There was a strong wind blowing but in intermittent sun he took a single *eupheme*, four *E. tagis castellana*, and two *E. crameri* of a small race very difficult to distinguish on the wing from *tagis*. He then explored the Serra de Arrabida south of Lisbon, which was unproductive, and drove on to the Algarve where the weather was better. Between 16.iv & 21.iv he explored the Serra de Monchique, areas around Lagos and inland towards Ameixial, much of the time in the company of Peter and Penny Russell and David Hall who were also staying in the area. They found or rediscovered four or five localities for the very local *M. deione rosinae*. This is the largest and most colourful form of the species but the foodplant remains a mystery as the only *Linaria* present where the butterfly flew were small and meagre and appeared too thinly scattered to support broods of this magnificent fritillary. Returning to the hills east of Madrid on 24.iv, singles of *G. melanops*, *P. abencerragus*, *Tomares ballus*, *Ipliclides feisthameli* and *Z. rumina* were seen. The latter were only just emerging and paler than the Algarve form which was already on the wane.

MARTIN, G. – Saturniidae from Las Cuevas Research Station, Belize. The specimens exhibited were collected at The Natural History Museum's research station at Las Cuevas in Belize from 25.vi.2002–8.viii.2002. 25 species of Saturniidae were recorded including two species new to Belize. The 'Umbrella Trap' method of light trapping was used. (See the 2002 report, Foreign Lepidoptera, contribution by Martin, for details.)

Species collected: New to Belize: (i) *Ptiloscola dargei* Lemaire (ii) *Ganetia septentrionalis* Bouvier. Others: *Arsenura armida* Cramer, *Caio chaupionii* Druce, *Adeloneivaia irrorata* Schaus, *A. isara* Dognin, *Citheronia collaris* Rothschild, *Citioica authouilis* H.-S., *Eacles imperialis* Drury, *Othoreue purpurascens* Schaus, *Syssphinx mexicana* Boisduval, *S. molina* Cramer, *Automeris banus* Boisduval, *A. belti* Druce, *A. metzli* Salle, *A. moloneyi* Druce, *A. macphaili* Schaus, *A. montezuma* Boisduval, *A. zozine* Druce, *Hylesia acuta* Druce, *H. continua* Walker, *H. lineata* Druce, *Leucanella leucane* Geyer, *Copaxa rufianus* Schaus, *Rothschildia lebeau* Guerin-Meneville, *R. roxana* Schaus.

MCCLEOD, L. – *Cynthia cardui* taken at Riviersonderend, Cape, Republic of South Africa (RSA), x.2003. The butterfly appears to be a deeper brick red in RSA than in Europe.

PHILLIPS, J. W. – Slovenian butterflies. A selection of butterflies encountered during the Society's recent field expedition to Slovenia in vi.2003, hosted by the Slovenian Natural History Museum, Ljubljana: *Libythea celtis* Laicharting, *Erebia medusa* D.&S., *Euphydryas aurinia* Rottemburg, *Argynnis niobe* L. f. *eris*, *Argynnis adippe* D.&S., *Brenthis daphne* D.&S., *Brenthis iro* Rottemburg, *Brenthis hecate* D.&S., *Melanargia galathea* L., *Coenonympha oedippus* F., *Heteropterus morpheus* Pallas, *Parnassius mnemosyne* L., *Limenitis reducta* Stdgr, *Melitaea cinxia* L., *M. didyma* Esp..

PHILLIPS, J. & PICKLES, A. – Lepidoptera taken on the BENHS visit to Slovenia, 3–11.vi.2003. (1) Microlepidoptera. Tineidae: *Euplocamus anthracinalis* Scop. Zygaenidae: *Zygaena caruollica* Scop. Thyrididae: *Thyris fenestrella* Scop. Pyralidae: *Eurrhysis pollinalis* D.&S., *Catoptria specularis* Hb.

(2) Macrolepidoptera. Lasiocampidae: *Deudrolinus pini* L., *Odonestis pruni* L. Saturniidae: *Perisomena caecigena* Kupido, bred from a larva on *Quercus*. Geometridae: *Scopula inuolata* L., *Idaea aureolaria* D.&S., *Eumiltis pygmaearia* Hb., *Scotopteryx coerctaria* D.&S., *Schistostegia decussata* D.&S. Notodontidae: *Spatalia argentina* D.&S. Noctuidae: *Polypogon tentacularia* L., *Euchalcia variabilis* Pill., *Catephia alchymista* D.&S., *Idia calvaria* D.&S. Arctiidae: *Spiris striata* L., *Rhyparia purpurata*, L., bred from a larva, *Anata phegea* L., *Dysauxes faunula* Freyer.

(3) Butterflies. *Coenonympha arcania* L. (with melanic form), *C. oedippus* F.

SIMS, I – Foreign Microlepidoptera. (1) *Canephora hirsuta* Poda, male and case, from Uwe Widowski, collected by Thomas Sobczyk, Hansestadt, Boberg, Hamburg, Germany, 25.v.2000, hatched 15.vi.2000. (2) *Thyridopteryx epheneraeformis* Haworth, adults, larval and pupal cases and pupae. F₁ generation, ex larvae, from cases collected by G. S. Robinson, Lake of the Ozarks, Laurie, Missouri, North America on 19.xi.2002. Larvae hatched 10.iii.2003, reared on *Thuja orientalis* (first instar) and *Cupressocypariss leylandii* (subsequent instars). Cases fixed prior to pupation mid vi – mid vii 2003. Males (29) hatched 1.viii–27.viii.2003 (mostly around 16.30h). Females (29) emerged 16.viii–9.ix.2003 (mostly during the early morning). (3) *Oiketiscus kirbyi* Guildin, female and pupal cases. Found as large larva by Dr Brian Freeman on conifers (species undetermined), campus of the University of the West Indies, Kingston, Jamaica, 22.i.2002. Fed up on *Thuja orientalis*. Case fixed 21.iv.2002. Hatched 9.vi.2002.

SLADE, D. – Microlepidoptera from Slovenia, vi.2003 Gracillariidae: *Cameraria ohridella* Deschka & Dimic, Brestovica (60m), 7.vi.2003. Epermeniidae: *Epermenia pontificella* Hb., Nanos, Zaresnica (1240m), 10.vi.2003. Tortricidae: *Cydia pallifrontaua* Lien. & Zell., Nanos, Zaresnica (1240m), 10.vi.2003. Coleophoridae: *Coleophora lixella* Zell., Otoce (486m), 2.vi.2003. Oecophoridae: *Protasis punctella* Costa, Dragonja, Križišče, Stena pri Dragonji (35m), 8.vi.2003. Gelcchiidae: *Mesophleps silacella* Hb., Otoce (486m), 2.vi.2003; *Metzneria aprilella* H.-S., Razdrto, Hudicevec (M.V.), (530m), 6.vi.2003; *Pseudotelphusa scalella* Scop., Razdrto, Hudicevec (M.V.), (530m), 6.vi.2003. Incurvariidae: *Alloclemeusia mesopilella* H.-S., Lokve, Smrckova Draga (990m), 9.vi.2003

STERLING, M. – Lepidoptera from Hong Kong, China, 1998–2003.

(1) Microlepidoptera. Tineidae: (i) *Moutopis* sp. nr. *hemicitra* Meyrick, second record for China. Psychidae: (ii) *Eumeta pryeri* Leech = *variegata* Snellen. Gracillariidae: (iii) *Caloptilia* nr. *zelutneri* Snellen. Larvae make classic *Caloptilia* mines on *Rhodomyrtus tomentosa* Aiton. On seedling plants growing on cliff faces or road cuttings. (iv) Gracillariid sp. larvae on *Sapium discolor* Muell. in three successive mines. First mine is brown and linear followed by two successive cones

folded underside. Pupation takes place in the cone. Probably undescribed. Raised scales on the dorsum were particularly prominent in the unset specimen. Lacturidae: (v) *Anticrates* sp., probably undescribed, known from a few specimens taken in the central part of the New Territories. Yponomeutidae: (vi) *Atteva* sp., an undescribed species. (vii) *Comocritis taiwanensis* Moriuti, only known from Taiwan and Hong Kong. The Taiwanese specimens were significantly smaller and may be a different species. Xylorictidae: (viii) *Thymiatris* sp. nr. *arista* Diakanoff, probably undescribed. The forewings of this species are very similar to *arista* but *arista* has pale hindwings. (ix) *Aeolarcha eaphthalma* Meyrick. Originally represented by one shattered stump in the BM collection. Fairly common at light around Kadoorie Farm in the Central New Territories. The long legs make it look like a hornet in flight. When it first settles it vibrates its wings in a similar fashion to a species of sphecoid wasp common in Hong Kong. Also figured in Wang, *Insects of Taiwan*, as *Asiitaga longimana* Matsumura. (x) *Casuarina patroua* Meyrick, new to China. *C. patroua* is probably a complex of species. Gelechiidae: (xi) *Dichouneris* nr. *traumatias* probably undescribed. *D. traumatias* is a complex of species. Tortricidae: (xii) *Asaphistis* nr. *A. praeceps*, probably undescribed although it could be a smaller version of *praeceps*, which is known from Nepal. Thyrididae: (xiii) *Pyrinioides sinuosus* Warren. (xiv) *Glanycus insolitus* Walker. The males have been previously described as *Glanycus tricolor* Moore and there is still debate as to whether this is one species or two. Those displayed were bred from leaf rolls on two adjacent leaves of *Scheffleria octophylla*, and hence it is almost certain that they were males and females of one species. Pyralidae: (xv) *Tyudis* sp., undescribed. About 10 known specimens, mostly from the basement car park of the flats where the exhibitor used to live. (xvi) *Agassiziella* sp. nr. *albidivisa* Warren, second record for Hong Kong, probably undescribed. (xvii) *Agathodes osteentalis* Geyer. (xviii) *Pygospila tyres* Cramer. (xix) *Dichocrocis zebrealis* Moore. (xx) *Parotis suralis* Lederer. A common species with a number of generations in a year.

(2) Macrolepidoptera. Hepialidae: (i) *Endoclita sinensis* Moore. One of about five records from Hong Kong. Zygaenidae: (ii) *Cyclosia papilionaris* Drury, the male is nocturnal, the female flies both by day and at night. This species belongs to the subfamily Chalcosiinae which contains a number of butterfly mimics. The female mimics a danaid butterfly. (iii) *Rhodopsoua* sp., only one of two Hong Kong records, possibly an undescribed species. Limacodidae: *Parasa pastoralis* Butl. This species has a widespread distribution in the Asian tropics. Epipyropidae: (v) *Fulgoraecia bowringi* Newman, possibly restricted to Hong Kong. The larva is reputed to feed as a cannibal on the bodies of live lantern bugs. Drepanidae: (vi) *Thyatira batis* L. A number of species which are migrants to Britain, occur in Hong Kong e.g. Convolvulus Hawk, Dark Sword Grass, Cosmopolitan, Gold Twin Spot. The Peach Blossom is the only common resident between the two countries, it is also resident 1500 miles south in Peninsula Malaysia and Indonesia. Geometridae: (vii) *Dysphania militaris* L, a common day-flying moth in coastal woodland and in Hong Kong's one remaining area of mangrove. (viii) *Ecliptoptera furva*, new to China this year. (ix) *Acohutia pulchella* Hampson, one of only a few records from Hong Kong. (x) *Sigilliclystis kendricki* Galsworthy, described in 1999 by the then British Ambassador to China, known only from Hong Kong. There is a patch of androconal scales in the middle of the costa, present only in the male. (xi) *Chorodna creataria* Gn, an uncommon species in Hong Kong, apparently restricted to established woodland. Lasiocampidae: (xii) *Trabala vishnou* Lefèbvre, larvae scarce on *Rhodomyrtus tomentosa* Aiton. A striking species in all its stages, it has a multi-coloured larva. The bi-lobed cocoon resembles a brassiere (although rather hairy). The female is a deep

saffron yellow on emergence but fades within a few months. Sphingidae: (xiii) *Cephonodes hylas* L. bred ex ova on *Tarrena attenuata* on which a female was found ovipositing. New food plant record for Hong Kong. (xiv) *Macroglossum imperator* Butl., probably the largest of the 19 species of *Macroglossum* recorded from Hong Kong. Arctiidae: (xv) *Paleopsis* nr. *diaphana*, only a few records from Hong Kong. (xvi) *Miltochrista striata* Bremer & Grey, a very common species which occurs throughout the year. Noctuidae: (xvii) *Acidon paradoxa* Hampson, previously only known from the type specimen which is from Bhutan (Himalayas). It has now been recorded fairly commonly from two sites at Kadoorie Farm. One specimen exhibited was the second known to science. (xviii) *Adris tyrannus* Gn. widely distributed in China but generally uncommon in Hong Kong where it seems to be restricted to mature woodland. (xix) *Othreis hypermnestra* Stoll, a widely distributed species in the Asian tropics but fairly scarce in Hong Kong. (xx). A *Hypenine* sp. fairly common in Hong Kong but apparently undescribed. (xxi) *Eligma narcissus* Cramer, a common species in early winter. (xxii) *Micronoctua* sp. Three specimens were taken from the south coast of Hong Kong Island, and they are the only known specimens. One was exhibited; the others have been passed to Michael Fibiger for description.

WINOKUR, L., KUDRNA, O. & PARKER, R. – Pattern variation and inheritance in *Melanargia galathea galathea* L., form *magdalenae* Reichl from Northeast Italy.

The exhibit comprised 4 out of 6 *magdalenae* females collected from Val Pentina (46° 10' 36" N, 12° 31' 06" E) at 502 m altitude, 20.vii.2002, and 9 examples of their F₁ offspring. The females were initially not segregated, so the actual parent was not known in some cases. The *magdalenae* phenotype was variable, which suggests polygenic control. Variability pertained mainly to melanic obscuration of the upperside pale basal and discal markings. There was general similarity between parent and offspring. One of the six original females was of form *magdalenae* + *lencomelas*. Form *lencomelas* Esp., in which the hindwing and apical forewing undersides are uniformly pale, is recurrent in S. Europe (Tolman, T. & Lewington, R. 1997. *Butterflies of Britain and Europe*, HarperCollins Publishers, London) but not previously reported with *magdalenae*. The expression of both forms together indicates that they involve separate genes. This female had laid 5 eggs yielding 3 larvae, but they died over winter. None of the F₁ of the *magdalenae*-only parents was f. *lencomelas*.

DIPTERA

BOYD, G. – Three species of Diptera collected during 2003: *Stratiomys potamida* (Meig.) (Stratiomyidae), Farthinghoe Reserve (SP5440), Northants, VC 32, 25.vi, not a wetland site although it includes ditches, the fly observed on tall vegetation during a break from grass cutting for conservation purposes; *Epistrophe diaphana* (Zett.) (Syrphidae), near Beddington (SP4953), Northants, 12.vi, in a flower-rich meadow, apparently a new county record; *Thecophora atra* (F.) (Conopidae), Houghton Regis (TL0022), Beds, 28.vii, on the bank of an old railway cutting through the chalk, a site rich in its aculeate hosts.

COLLINS, G. A. – Scarce Diptera taken in the last few years: *Pteromicra leucopeza* (Meig.) (Sciomyzidae), Penhale Sands, W. Cornwall, Malaise trap, 13.vi–5.vii.2002 and the rest Tachinidae: *Actia resinellae* (Schrank), Horsell Common, Surrey, 17–24.vii.2000, very few records but a parasitoid of *Pinus*-feeding Microlepidoptera so may be under-recorded; *Aphantorhaphopsis verralli* (Wainwright), Hankley Common, Surrey, Malaise trap, 7–30.viii.2001, present in two samples from this site but previously known from northern England and Scotland; *Blepharipa schineri*

(Mesnil), Selsdon Wood, Surrey, 4.vi.2003, a recent addition to the British list that is a parasitoid of *Lymantria dispar* but may also attack other lymantriid larvae; *Ceromya silacea* (Meig.), Horsell Common, Surrey, 6–14.viii.2000, several examples found in a Malaise trap serviced by John Pontin, its host the noctuid *Protodeltote pygarga* also being common in the trap; *Cistogaster globosa* (F.), Shepperton, Middlesex, 14.viii.2003, numerous on flowers of *Daucus carota*; *Clemelis pullata* (Meig.), Burham Down, East Kent, 5.viii.2003, known from a handful of sites mainly on the North Downs; *Elodia aubulatoria* (Meig.), Hankley Common, Surrey, Malaise trap, 14.vii–7.viii.2001; *Paracraspedothrix montivaga* Villeneuve, Horsell Common, Surrey, Malaise trap, 21–28.viii.2000, evidently still spreading since first recorded as British in recent years; *Policheta unicolor* (Fall.), Bre Pen, W. Cornwall, 11.vi.2000 and the exhibitor had recorded this species at nine sites in Cornwall in recent years.

GIBBS, D. J. – Uncommon Diptera collected in 2003: *Ormosia bicornis* (de Meijere) (Limoniidae), Highnam Wood RSPB NR (SO7720), VC 34, Gloucs, 1.x; *Orinarga juvenilis* (Zett.) (Limoniidae), Culverhole Point (SY2789), Devon, VC 3, 26.vi; *Euthyneura inermis* (Becker) (Hybotidae), Midger NR (ST7989), Gloucs, VC 34, 1.iv; *Kowarzia tenella* (Wahlberg) (Empididae), Humble Point (SY3090), Devon, VC 3, 24.vi; *Myopites inulae dysentericae* Blot (Tephritidae), Hengrove Park (ST5968), Bristol, VC 6, 3.vii; *Cnemacantha muscaria* (Fall.) (Lauxaniidae), Avon Gorge (ST5673), Somerset, VC 6, 9.vi; *Homoneura interstincta* (Fall.) (Lauxaniidae), Montacute House (ST4917), Somerset, VC 5, 15.vii; *Leucophora sericea* R.-D. (Anthomyiidae), Pinhay Warren (SY3290), Devon, VC 3, 25.vi; *Redtenbacheria insignis* Egger (Tachinidae), fifth British specimen and first recorded since 1945, Highnam Wood RSPB NR (SO7720), Gloucs, VC 34, 1.x.

HALSTEAD, A. J. – Some local Diptera collected in 2003: *Nephrotoma crocata* (L.) (Tipulidae), orchid field at Horsell Common (SU9860), Surrey, 8.vi; *Tabanus niki* Brauer (Tabanidae), Market Weston Fen (TL9878), Suffolk, 13.vii, swept; *Odontomyia angulata* (Panzer) (Stratiomyidae), Thompson Common (TL9396), Norfolk, 15.vii, swept near pingo pool; *Oxycera leonina* (Panzer) (Stratiomyidae), Lynford Meadows (TL8293), near Mundford, Suffolk, 12.vii, swept; *Stratiomys potamida* (Meig.) (Stratiomyidae), Thelnetham Fen (TM0178), Suffolk, 13.vii, at *Heracleum* flowers; *Choerades marginatus* (L.) (Asilidae), as for *N. crocata*; *Xanthandrus comtus* (Harris) (Syrphidae), Towcester (SP6947), Northants, 3.vii, teneral specimen on oak sapling damaged by larvae of *Phycita roborella* (D.&S.) (Pyralidae); *Myolepta dubia* (F.) (Syrphidae), Cavenham Heath (TL7672), Suffolk, 18.vii, at *Heracleum* flowers; *Xylota abiens* Meig. (Syrphidae), RHS Garden, Wisley (TQ0658), Surrey, 24.vi, in a polythene tunnel; *Chetostonia curvinerve* Rond. (Tephritidae), Brookwood Lye (SU9657), Surrey, 27.vii, swept; *Oxyna flavipennis* Loew (Tephritidae), as *O. leonina*; *Discomyza incurva* (Fall.) (Ephydriidae), RAF Barnham (TL8680), Suffolk, 14.vii, swept from dry grassland.

HARLEY, B. – *Tabanus sordeticus* Zeller (Tabanidae), caught overnight buzzing audibly on 17–18.vii.2003 in a Robinson light trap at Ardtalla (NR4654), Isle of Islay, VC 102; the trap also contained 500 moths of 53 species and 17 beetles of 3 species, including three burying beetles.

HODGE, P. J. – *Campiglossa thomaei* (Hering) (Tephritidae), from two sites at Newhaven, E. Sussex (TQ4502 and TQ4401), 8.vii.2003, several swept off *Senecio erucifolius*; previously recorded only from E. Kent in the British Isles.

JONES, R. A. – (1) *Leptarthrus vitripennis* (Meig.) (Asilidae), found in numbers on the remnant chalk downland sites of Downe Bank (TQ4361) and Overshaw (TQ4461), near Downe, W. Kent, 18.vi.2003. It was noted that these two North Downs slopes face each other across a small valley and on that day large numbers

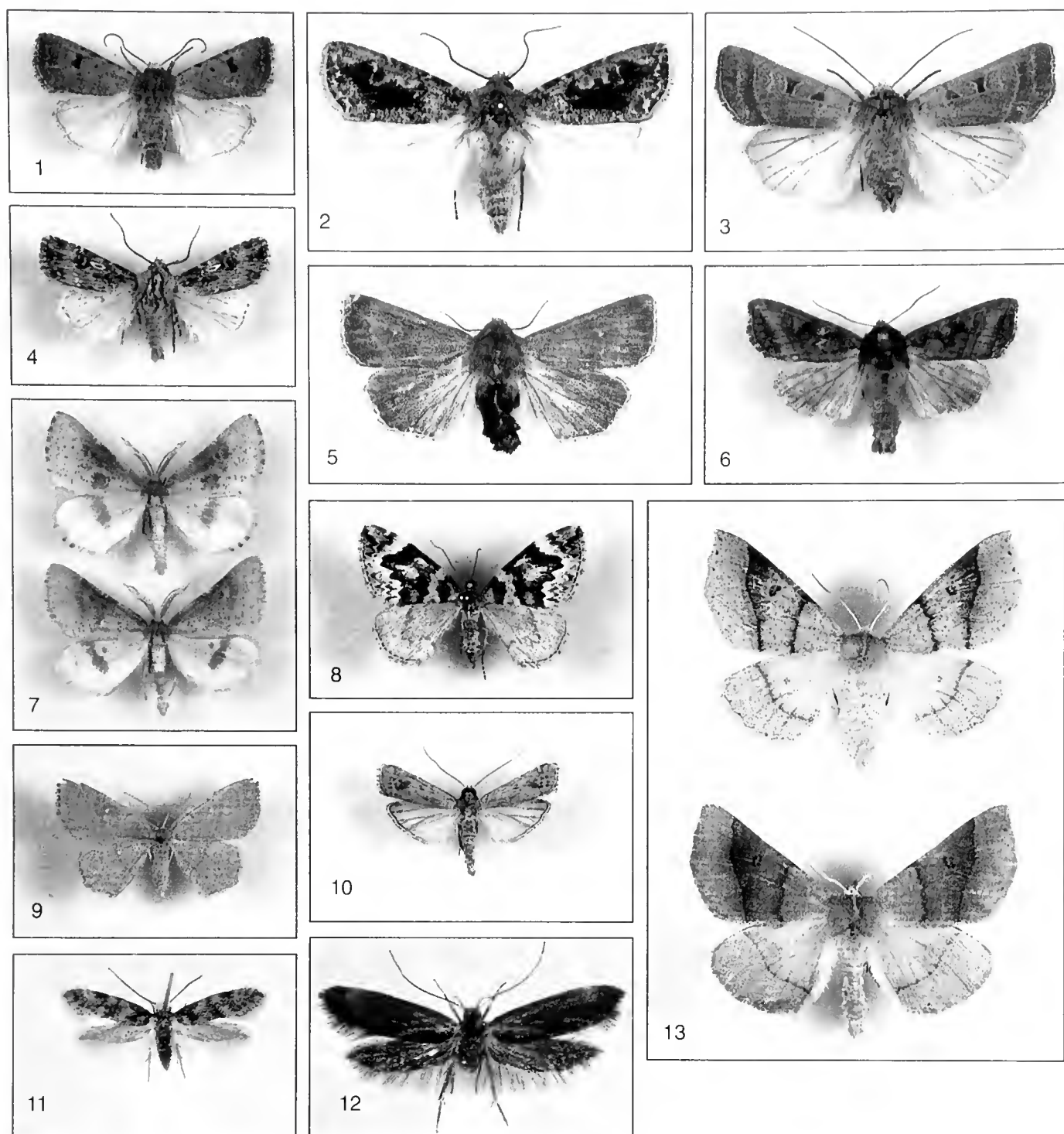


PLATE 13. BENHS Annual Exhibition. Imperial College. 11 November 2003

1: *Platyperigea kadenii*, Southsea, South Hampshire, 11.vii.2003, J. Langmaid. 2: *Agrotis segetum*, ab. *mediocuneata*, Lizard, West Cornwall, 13.x.2003, D. Brown. 3: *Eugnorisma glareosa*, ab., Dungeness, East Kent, 30.ix.2003, S. Clancy. 4: *Agrotis syricola*, Grouville, Jersey, 10.ix.2002, D. Wedd. 5: *Mythimna ferrago*, melanic, Kingfisher Bridge, Wicken, Cambridgeshire, 26.vi.2002, J. Dawson (captor J. Cadbury). 6: *Lacanobia splendens*, Dymchurch, East Kent, 16.vi.2003, J. Owen. 7: *Semiaspilates ochrearia*, Dungeness, East Kent, 15.ix.2003, S. Clancy. 8: *Chloroclysta citrata*, Perthshire, A. Jenkins. 9: *Cyclophora ruficiliaria*, Portland, Dorset, 19.vii.2003, J. Chainey. 10: *Euzophera osseatella*, Isle of Grain, West Kent, 8.viii.2003, A.G.J. Butcher, 1.5 x life-size. 11: *Infurcitinea captans*, Chapel Porth, West Cornwall, em. 2.vi.2003, R.J. Heckford, 3 x life-size. 12: *Metalampra italica*, Plympton, South Devon, 16.viii.2003, R.J. Heckford, 3 x life-size. 13: *Crocallis dardoinaria*, bred from gravid female, Puerta de los Blancos, Granada, Spain, female (above) em. 9.v.2003, male (below) em. 28.v.2003, N. Hall.

All illustrations are life size unless otherwise stated. Photographs by Richard A. Jones.

(very many dozens) of *Leptarthrus* were seen flying around the herbage and low scrub. Amongst the common *L. brevirostris* (Meig.) were also several specimens of *L. vitripennis*. Although both species varied considerably in both size and the extent of the basal wing cloud, it was easy to tell them apart by virtue of the red hind tarsi of *L. vitripennis*. After the first few were captured it proved easy to identify them in the tube using a hand lens or even the naked eye, before releasing them again. A quick tally of 50 specimens of the genus at Overshaw produced 43 *L. brevirostris* and 7 *L. vitripennis*, a ratio of just over 6 to 1. Most records of *L. vitripennis* are of singletons and this appears to be the first time that this fly has been seen in numbers. A single specimen of *L. vitripennis* was also found nearby at High Elms (TQ4462), W. Kent on 4.vii.2003.

(2) Other Diptera collected in 2003: *Chorisops nagatomii* Rozkošný (Stratiomyidae), Tooting Bec Common (TQ2972), Surrey, 16.ix, swept from unmown pockets of grassland; *Microdon devius* (L.) (Syrphidae), Overshaw, near Downe (TQ4461), W. Kent, 18.vi, swept; *Acinia corniculata* (Zett.) (Tephritidae), Ifield (TQ2437), W. Sussex, 30.vii, swept from ungrazed meadow; *Myopites inulaedyssentericae* Blot (Tephritidae), Dry Street, Basildon (TQ6987), S. Essex, 15.vii, swept from ungrazed meadow.

(3) A photograph showing the entrance to a wasp nest in a hole in the side of a cricket pavilion at Down House, Downe (TQ432607), W. Kent, 8.x.2003. Along with two wasps landing at the hole could be seen the tip of a large plump whitish grey syrphid larva with a dark posterior breathing tube, considered to be either *Volucella inanis* (L.) or *V. zonaria* (Poda).

MERRIFIELD, R. K. & R. M. – Several species of Diptera, mostly collected in 2003 (all except Conopidae determined by A.E. Stubbs): *Tipula hortorum* L. (Tipulidae), Dancersend BBOWT Reserve (SP9009), near Tring, Bucks, VC 24, 4.v.2003 (it had previously been recorded from this reserve on 23.v.1982); *T. submarmorata* Schummel (Tipulidae), Cawdor Woods (NH8449), Inverness, 31.v.2002; *Ula mixta* Stáry, (Pediidae), new to Britain (also exhibited at the Indoor Meeting on 13 May 2003), data as previous species; *Limonia masoni* (Edwards), Dancersend BBOWT Reserve, Bucks, 29.v.2003; *Leptarthrus vitripennis* (Meig.) (Asilidae), Butler's Hangings BBOWT Reserve (SU8196), Bucks, VC 24, 9.vi.2003, *Microdon devius* (L.) (Syrphidae), data as previous species, on a south-west facing chalk grassland slope with some scrub, most recent records of this species having been from the North Downs of Surrey and Kent (see Exhibit by R. A. Jones above); *Conops strigatus* Wied. in Meig. (Conopidae), Bray Pit BBOWT Reserve (SU9078), Berks, VC 22, 20.viii.2003; *C. vesicularis* L. (Conopidae), Sutton Heath Park (TM3147), Suffolk, VC 25, 21.vi.2003; *Physocephala rufipes* (F.) (Conopidae), Dancersend BBOWT Reserve, 14.viii.2003; *Zodion cinerem* (F.), Hurley Chalk Pit BBOWT Reserve, Henley (SU8181), Berks, VC22, 7.vii.2003.

MILES, S. – The BENHS Heathland Flies Project: (1) Photographs of two of the three subject species, *Bombylius minor* L. (Bombyliidae) and *Chrysotoxum octomaculatum* Curtis (Syrphidae); (2) The empty pupal case of the other subject species, *Thyridanthrax fenestratus* (Fall.) (Bombyliidae), with a photograph of the host cocoon from which the fly had emerged; also exhibited were specimens and a cocoon of the host wasp, *Anniophila pubescens* Curtis, showing its appearance when the host emerges normally; (3) Season of occurrence diagrams for *B. minor* and *T. fenestratus*, updated distribution maps, diagrams of standardised walks undertaken for survey purposes and some of the reports generated by participants in the project.

PARKER, M. – A number of rare and local species from Dorset, Suffolk, Braemar and the Isles of Mull, Ulva and Iona in 2003: *Rhagio notatus* (Meig.) (Rhagionidae),

north of Crathie (NO2695), S. Aberdeen, VC 92, 12.vi; *Odontomyia angulata* (Panzer) (Stratiomyidae), Thompson Common (TL9396), W. Norfolk, 15.vii, female swept from *Salix* species; *Oxycera morrisii* Curtis (Stratiomyidae), White Nothe (SY7681), Dorset, VC 9, 19.vii, female swept from coastal seepage; *Stratiomys potanida* Meig. (Stratiomyidae), Wayland Wood SSSI (TL9299), W. Norfolk, VC 28, 15.vii, male at umbels; *Phthiria pulicaria* (Mikan) (Bombyliidae), Camp Close, West Suffolk, VC 26, 11.vii, female swept from dry grassland; *Choerades marginatus* (L.) (Asilidae), Redgrave & Lopham Fen SSSI (TM0579), W. Suffolk, male and female in copula on alder *Alnus glutinosa* foliage, 13.vii; *Eutolmus rufibarbis* (Meig.) (Asilidae), Lynford Meadows (TL8293), W. Suffolk, 12.vii, male swept from meadowland; *Machimus arthriticus* (Zeller) (Asilidae), King's Forest (TL8272), West Suffolk, 12.vii, female swept from dry grassland adjacent to a conifer plantation; *Cheilosia pubera* (Zett.) (Syrphidae), Heritage Centre car park (NM4350), Isle of Mull, Mid Ebudes, 18.vi, female at *Ranunculus* flowers; *Eristalis rupium* F. (Syrphidae), the A'Chrannag area (NM4338), Isle of Ulva, Mid Ebudes, VC 103, 20.vi, female at *Valeriana officinalis* flowers; *Eupeodes lapponicus* (Zett.) (Syrphidae), grassland adjacent to Delcombe Woods (ST7905), Dorset, VC 9, 9.vi, at *Taraxacum* flowers; *Lejogaster tarsata* (Megerle in Meig.) (Syrphidae), the A'Chrannag area (NM4338), Isle of Ulva, Mid Ebudes, VC 103, 19.vi, male and female swept from *Ranunculus* species; *Platycheirus aurolateralis* Stubbs (Syrphidae), Piddles Wood (ST7912), Dorset, VC 9, 3.v, at *Euphorbia amygdaloides* flowers; *Platycheirus perpallidus* Verrall (Syrphidae), Loch Staoineig (NM2622), Isle of Iona, Mid Ebudes, VC 103, male swept from loch side vegetation, 17.vi; *Triglyphus prinnus* Loew (Syrphidae), Lashford Lakes (TL8870), Suffolk WT Reserve, 16.vii, male swept from umbels; *Xylota xanthocnema* Collin (Syrphidae), Heath Bottom (ST7905), Dorset, VC 9, 6.vii, basking on leaves; *Acanthiophilus helianthi* (Rossi) (Tephritidae), Cheyne Weare (SY6970), Dorset, 3.vii, swept from herb-rich coastal cliff; *Oxyna flavipennis* (Loew) (Tephritidae), as *P. pulicaria*, male and female.

PERRY, I. – A selection of uncommon Diptera found or reared during 2003: *Prionocera subserricornis* (Zett.) (Tipulidae), Chippenham Fen, Cambs, 14.viii, a male at *Angelica sylvestris* flowers; *Oxycera analis* Meig. and *O. terminata* Meig. (Stratiomyidae), Wimpole Hall, Cambs, 25.vi, females on vegetation and exposed sediments by the edge of a small stream on calcareous clay; *Agathomyia cinerea* (Zett.) (Platypezidae), Lode, Cambs, 17.xi, a male resting on a leaf just above the fungus *Laetiporus sulphureus*; *A. wankowiczii* (Schnabl) (Platypezidae), King's Forest, Suffolk, reared from larvae found in galls of the fungus *Ganoderma applanatum* on 28.x.2002, adults emerging at the end of v and beginning of vi.2003; *Brachyopa bicolor* (Fall.) (Syrphidae), Chippenham Fen, Cambs, 9.v, males resting on ash *Fraxinus* trunks at about head height; *Cheilosia sahlbergi* Becker (Syrphidae), Coire an Lochain, Cairngorms, Inverness, 1.vi, female on *Caltha palustris* at 800m and 6.vi, male flying low near top of ridge at 1050m; *Megamerina dolium* (F.) (Megamerinidae), Lode, Cambs, 21.vii, several running around on the trunk of a small diseased elm *Ulmus*; *Phaonia subfuscinervis* (Zett.) (Muscidae), Coire an Lochain, 1.vi, a pair on *Caltha palustris* at 800m; *Thecocarcelia acutangulata* (Macq.) (Tachinidae), King's Forest, Suffolk, 20.vii, on *Pastinaca sativa*; *Catharosia pygmaea* (Fall.) (Tachinidae), Reach, Cambs, 31.vii, numerous on *Daucus carota*, in rough calcareous grassland by the edge of Devils Ditch; *Hemysda vittata* (Meig.) (Tachinidae), King's Forest, Suffolk, 20.vii, a female on *Pastinaca sativa* and Lode, Cambs, 27.ix, a male on *Hedera helix*; *Subclytia rotundiventris* (Fall.) (Tachinidae), Lavenham Walks, Suffolk, 17.vii, a female on *Heracleum sphondylium* in disused railway line; Woodwalton Fen, Hunts, 23.viii, several on *Angelica sylvestris*; Wicken

Fen, Cambs, 26.viii, a male on *Angelica sylvestris*. All of the Tachinidae exhibited appeared to be new county records and show a considerable extension to their known ranges.

STUBBS, A.E. – (1) Syrphidae, larger Brachycera and Pipunculidae from S.E. Spain, collected while attending the International Hoverfly Symposium at Alicante in June 2003.

(2) *Atylotus rnsticus* (L.) (Tabanidae), 4.viii.2003, a male from the Kent side of the river at Groombridge, Sussex; this was the first record of this very scarce species from the central Weald (*B. J. Ent. Nat. Hist.*, **17**: 23).

(3) Photographs from the Dipterists Forum field meeting in Norfolk, October 2002.

COLEOPTERA

ALLEN, A. J. W. -- (1) Two species new to Britain. *Dactylosternum abdominale* (F.) (Hydrophilidae), Brockington Down, Dorset, SU0111, in numbers in wet silage, 28.viii.2003 and on subsequent occasions, the first British record, this species is widely distributed throughout the tropics of both the Old and New Worlds and in adjacent temperate zones and has been spreading northwards through Europe, and is found in all kinds of decaying matter; *Xylostiba bosnica* (Bernhauer) (Staphylinidae), Windsor, Berkshire, one under bark of beech log, 13.x.2002, a species new to Britain, this is the first time the species has been recorded from Britain but there are a number of modern records of *Xylostiba monilicornis* (Gyllenhal) from southern Britain and at least some of these are *X. bosnica*, which is smaller and has shorter antennae with the fifth segment transverse.

(2) Notable or locally interesting species from Dorset, Cornwall and Berkshire. *Harpalus vernalis* (Duft.) (Carabidae), Whitsand Bay, East Cornwall, SX3852, one by grubbing at the base of the cliffs, 7.viii.2003, a new county record; *Eutheia schammii* Kiesen. and *Eutheia scydmaenoides* Stephens (Scydmaenidae), Brockington Down, Dorset, SU0111, in wet silage, 15.x.2003, possibly both new for Dorset; *Anotylus migrator* Fauvel (Staphylinidae), Brockington Down, Dorset, SU0111, 28.viii.2003 and subsequently, the first Dorset record for this recently arrived species; *Oryzaephilus surinamensis* (L.) (Silvanidae), Gussage All Saints, Dorset, ST9910, one in old hay with pigeon droppings in open barn, 15.x.2003; *Anthicus tobias* Marseul (Anthicidae), Gussage All Saints, Dorset, ST9910, many in a very large dung and straw heap, 29.viii.2003 and several later dates; *Pentarthrum huttoni* Wollaston (Curculionidae), Gussage All Saints, Dorset, ST9910, a few in old hay in open barn, 2.xi.2003; *Rhynchaenus testaceus* (Müller) (Curculionidae), Ruan Lanihorne, East Cornwall, SW8842, several by beating alders, 7.viii.2003, this is the same site where Andy Foster found a single specimen in August 1978 and these seem to be the only Cornish records.

BOOTH, R. G. – Some locally interesting or notable species collected during 2003, including one species new to Britain. *Bembidion senipunctatum* (Donovan) (Carabidae), Dungeness, East Kent, TR0619, five specimens found on fine sand or mud at edge of gravel pit lake, 23.ix.2003, a new county record and most likely another recent colonisation from the continent; *Tachys edmondsi* Moore (Carabidae), Millyford Bridge, New Forest, S. Hants, SU2607, a pair sieved from a damp *Sphagnum* hummock, 19.iv.2003, another recent site for this rare species; *Ophonus puncticeps* Stephens (Carabidae), South Stack, Anglesey, SH2082, a single male running on footpath, 19.viii.2003, a record approaching the northern limit of its UK range; *Stenolophus tentorius* (Schrank) (Carabidae), Dungeness, East Kent, TR0619,

a single teneral male found on fine sand or mud at edge of gravel pit lake, 23.ix.2003, another species recently colonising East Kent; *Acrotichis lucidula* Rosskothén (Ptiliidae), Burton Mill Pond, West Sussex, SU9717, a single female sieved from wet moss by pond edge, 16.ix.2003, first post-1970 record for this poorly-known wetland species; *Tachyporus formosus* Matthews (Staphylinidae), Oaken Wood, Chiddingfold, Surrey, SU9933, a pair taken at night on forest track at light trap, 31.v.2003, teneral specimens of other *Tachyporus* species are often misidentified as *T. formosus*; *Falagria sulcatula* (Graven.) (Staphylinidae), Dungeness, East Kent, TR0619, eight specimens found sieving sand and plant roots at edge of gravel pit lake, 23.ix.2003; *Gnypeta caerulea* (Sahlb.) (Staphylinidae), Betws-y-coed, Caernarvonshire, SH7956, a single female digging into shingle at plant roots at the edge of Afon Conwy, 29.viii.2003, one of very few records for Wales; *Aloconota (Disopora) longicollis* (Mulsant & Rey) (Staphylinidae), Bookham Common, Surrey, TQ1256, a single female from wet mud, 10.v.2003, an infrequently recorded species also previously found at Bookham Common in the 1940s by A.M. Easton and A.A. Allen; *Heterocerus fuscus* Kiesen. (Heteroceridae), Dungeness, East Kent, TR0619, four specimens found on fine sand or mud at edge of gravel pit lake, 23.ix.2003, another species recently colonising East Kent and a new county record; *Dryops striatellus* (Fairmaire & Brisout) (Dryopidae), Studland Heath NNR, Dorset, SZ0386, a pair taken in wet litter at the edge of a stream outflow, 13.iv.2003, a post-1970 record for Dorset; *Megatoma undata* (L.) (Dermestidae), Beddington Sewage Farm, Surrey, TQ2866, three adults together with larvae and pupae in a nestbox sited on a fencepost, used during the summer by tree sparrows, 14.ix.2003, an unusual habitat for this species in the UK, although recorded from nestboxes in Finland; *Meligethes umbrosus* Sturm (Nitidulidae), Oaken Wood, Chiddingfold, Surrey, SU9933, a single male swept from woodland clearing at dusk, 31.v.2003; *Monotoma spinicollis* Aubé (Rhizophagidae), Aldreth, Cambridgeshire, TL4373, a single male sieved together with 15 other *Monotoma* specimens from grass cuttings on a large pile of straw and manure etc., 6.vii.2003, possibly a new county record; *Rodolia cardinalis* (Mulsant) (Coccinellidae), Chelsea, Middlesex, TQ2777, several adults together with pupae and their hemipteran host, *Icerya purchasi* Maskell, on garden-hedgerow plants and ornamental trees, 9.x.2003 and subsequent dates, a species new to Britain first found by Andrew Salisbury (see below) and identified by R.G. Booth; *Altica carinthiaca* Weise (Chrysomelidae), Haddenham, Cambridgeshire, TL4476, a single female swept from *Lathyrus pratensis*, 5.vii.2003; *Ceutorhynchus picitarsis* Gyllenhal (Curculionidae), Aldreth, Cambridgeshire, TL4373, two females sieved from base of old bales, 6.vii.2003; *Rhynchaenus testaceus* (Müller) (Curculionidae), Aldreth, Cambridgeshire, TL4472, a single female beaten from adjacent alder or cherry in a recently planted wood, 6.vii.2003, apparently a new county record; *Isochnus populicola* (Silfverberg) (Curculionidae), Bookham Common, Surrey, TQ1256, a single male sieved from damp leaf litter, 10.v.2003, a recent arrival in Surrey

BOWDREY, J. P.—Some notable and local Coleoptera during 2003. *Notiophilus quadripunctatus* Dejean (Carabidae), Gutteridge Wood, Weeley, North Essex, TM1420, running on ground at deciduous woodland edge, 24.v.2003; *Bembidion pallidipenne* (Illiger) (Carabidae), Walton-on-Naze, North Essex, TM2624, running on bare mud/sand at edge of brackish pool, 28.vi.2003; *Platyderus ruficollis* (Marsham) (Carabidae), Thorpe-le-Soken, North Essex, TM1722, under manhole cover in rural garden, 21.ii.2003; *Helochares lividus* (Forster) (Hydrophilidae), Thorpe-le-Soken, North Essex, TM1821, netted in flooded gravel pit, 18.iv.2003; *Psilothrix viridicoeruleus* (Geoff.) (Melyridae), St Osyth Beach, North Essex, TM1212, on yellow composite on stable dunes, 3.v.2003; *Dolichosoma lineare*

(Rossi) (Melyridae), Walton-on-Naze, North Essex, TM2624, swept from *Elymus* on saltings, 28.vi.2003; *Prionychus ater* (F.) (Tenebrionidae), Thorpe Hall, Thorpe-le-Soken, North Essex, TM1821, dead in spider's web on old *Quercus robur* in parkland, 8.vii.2003; *Cleonis pigra* (Scopoli) (Curculionidae), Walton-on-Naze, North Essex, TM2624, under *Beta vulgaris* ssp. *maritima* leaves, 25.ix.2003; *Sibinia arenariae* Stephens (Curculionidae), Walton-on-Naze, North Essex, TM2624, swept from *Spergularia* growing by brackish lagoon, 25.ix.2003; *Mecinus collaris* Germar (Curculionidae), Walton-on-Naze, North Essex, TM2624, in gall (also exhibited) on *Plantago maritima* on saltings, 25.ix.2003.

CUMING, N. St J. – Some uncommon Coleoptera from the coastal area of East Suffolk. *Bembidion nigropicatum* (Marsham) (Carabidae), Walberswick, TM5074, on sandy beach, 14.vii.2003; *Lionychus quadrillum* (Duft.) (Carabidae), Aldeburgh, TM4657, on beach shingle, 14.viii.2002; *Malachius vulueratus* Abcille (Melyridae), Aldeburgh, TM4654, sweeping saltmarsh vegetation, 27.vi.2003; *Diaperis boleti* (L.) (Tenebrionidae), North Warren, TM4659, in *Piptoporus betulinus*, 14.ix.2003; *Stethorus punctillum* (Weise) (Coccinellidae), Aldringham, TM4661, in webs of gorse mite *Tetranychus lutearis*, 13.vii.2003; *Longitarsus quadriguttatus* (Pont.) (Chrysomelidae), Friston, TM4358, on *Cynoglossum officinale*, 12.vi.2002; *Hypera danci* (Olivier) (Curculionidae), North Warren, TM4659, grubbing at roots of *Erodium cicutarium*, 16.vii.2003; *Hypera meles* (F.) (Curculionidae), Southwold, TM5178, on sand at base of cliffs, 24.v.2000; *Ceutorhynchus resedae* (Marsham) (Curculionidae), North Warren, TM4658, on *Reseda luteola*, 12.vi.2001; *Tychius quinquepunctatus* (L.) (Curculionidae), North Warren, TM4659, on sand inside rabbit burrow, 24.v.2003; *Mecinus circumlatus* (Marsham) (Curculionidae), North Warren, TM4659, on sand inside rabbit burrow, 9.v.2003.

GIBBS, D. J. – *Hylecoetus dermestoides* (L.) (Lymexylidae), Nagshead RSPB Reserve, West Gloucestershire, SO6009, 7.v.2003; *Osphya bipunctata* (F.) (Melandryidae), Highnam Wood RSPB Reserve, West Gloucestershire, SO7719, 11.vi.2003; *Molorchus umbellatarum* (von Schreber) (Cerambycidae), Lancut NR, West Gloucestershire, ST5496, 28.v.2003; *Leptura aurulella* F. (Cerambycidae), Coletton Fishacre Gardens, South Devon, SX9150, 11.viii.2003 and Greenway Gardens, South Devon, SX8754, 12.viii.2003; *Cryptocephalus frontalis* Marsham (Chrysomelidae), Lancut NR, West Gloucestershire, ST5396, 28.v.2003; *Chrysolina oricalcia* (Müller) (Chrysomelidae), Avon Gorge, North Somerset, ST5673, 9.vi.2003.

HALSTEAD, A. J. – Some local Coleoptera taken in 2003. *Omaloplia ruficollis* (F.) (Scarabaeidae), Grimes Graves, Suffolk, TL8189, on short chalk turf, 12.vii.2003; *Ochiuma pinioides* (Marsham) (Anobiidae), Old Woking, Surrey, TQ0257, sweeping, 7.vii.2003; *Pycnonotus fuliginosus* Erichson (Colydiidae), Haslemere, Surrey, SU8631, from birch log, 8.x.2003; *Orsodacne lineola* (Panz.) (Chrysomelidae), The Forest, East Horsley, Surrey, TQ0955, sweeping, 26.iv.2003; *Stictoleptura rubra* (L.) (Cerambycidae), Cranwich Heath, Suffolk, TL7692, female in flight 12.vii.2003 and The King's Forest, near Thetford, Suffolk, TL8375, male swept, 14.vii.2003; *Agapanthia villosa viridescens* (De Geer) (Cerambycidae), Tuddenham Heath, Suffolk, TL7472, sweeping, 11.vii.2003; *Cryptocephalus parvulus* Müller (Chrysomelidae), Horsell Common, Surrey, SU9860, sweeping, 10.viii.2003; *Chrysolina fastuosa* (Scopoli) (Chrysomelidae), Forest Lodge, Kings Forest, Suffolk, TL8171, sweeping, 17.vii.2003.

HENDERSON, M. – Beetles from my garden in SW London, Merton, Surrey: *Lucanus cervus* (L.) (Lucanidae), vi.1995; *Trox scaber* (L.) (Trogidae), two during a warm night, 14.v.1998; *Byrrhus pilula* (L.) (Byrrhidae), 15.v.1998; *Omosita discoidea* (F.) (Nitidulidae), on drying bone, 8.ix.1992; *Liliocernis lili* (Scopoli) (Chrysomelidae), on lilies, 1994.

HODGE, P. J. – Nine species of Coleoptera collected in south-east England in 2003. *Harpalus melancholicus* Dejean (Carabidae), Bewl Water, West Kent, TQ6833, female collected at MV light trap behind dam by P. Bance, 12.viii.2003; *Acupalpus brunnipes* (Sturm) (Carabidae), Lord's Piece, West Sussex, SU9917, in suction sample from bank of peaty pond, 23.vi.2003; *Acupalpus maculatus* Shaum (Carabidae), East Guldeford, East Sussex, TQ9520, in grassy ditch, 30.v.2003, a new county record; *Gyrinus paykulli* Ochs (Gyrinidae), Newhaven, East Sussex, TQ4403, male and female in former course of River Ouse, 20.vii.2003; *Meligethes rotundicollis* Brisout (Nitidulidae), Newhaven, East Sussex, TQ4502, swept off Charlock *Sinapis arvensis*, 29.v.2003; *Cryptocephalus biguttatus* (Scopoli) (Chrysomelidae), Stedham Common, East Sussex, TQ8521, male on Cross-leaved Heath *Erica tetralix* growing amongst wet *Sphagnum* moss, 17.vi.2003 and Eelmoor Marsh, North Hampshire, SU8352, male swept off *Erica tetralix*, 26.vi.2003; *Cryptocephalus frontalis* Marsham (Chrysomelidae), Ripe, East Sussex, TQ4910, 14.vi.2003, Chalvington Road, Golden Cross, East Sussex, TQ5312, 20.vi.2003, Captains Farm, Streat, East Sussex, TQ3517 24.vi.2003 and Danworth Farm, Hurstpierpoint, West Sussex, TQ2818, 24.vi.2003, all beaten off hawthorn *Crataegus* hedges; *Cassida hemisphaerica* Herbst (Chrysomelidae), Pyestock, Farnborough, North Hampshire, SU8354, in suction sample on south-facing heathy bank, 3.ix.2003, a new vice-county record; *Polydrusus sericeus* (Schaller) (Curculionidae), Newhaven, East Sussex, TQ4502, one swept near old hedgerow, 14.vi.2003.

JONES, R. A. – *Tachys parvulus* (Dejean) (Carabidae), Calthorpe Centre, Grays Inn Road, TQ3082, and Tower Hamlets Cemetery Park Visitor Centre, TQ3682, 27.v.2002 and Canary Wharf, TQ3780, 28.v.2002, all found using a suction sampler on eco-roofs (porous rubber mats 35 mm deep impregnated with seeds of *Sedum* and other drought-resistant plants, or a mixture of gravel and stone about 15 cm thick) in urban London, Middlesex, and Ifield, West Sussex, TQ2438, by splashing gravelly stream bank, 30.vii.2003; *Rugilus subtilis* (Erichson) (Staphylinidae), Newhaven, East Sussex, TQ4502, several specimens in garden Malaise trap, 5.iv., 9.iv. and 10.vii.2002, 5.iv. and 17.iv.2003; *Drilus flavescens* (Geoff.) (Drilidae), Downe, West Kent, TQ4360, a mating pair, 18.vi.2003, females are rarely found and are remarkable for their large, wingless, larviform appearance quite unlike the diminutive, winged male; *Aulonium trisulcum* (Geoff.) (Colydiidae), Tooting Bec Common, Surrey, TQ297718, a dead specimen found under bark of small dead elm c. 20 cm diameter, 29.v.2003; *Anthicus angustatus* Curtis (Anthicidae), Tower Hamlets Cemetery Park, Middlesex, TQ3682, by suction sampling sparsely vegetated eco-roof of gravel and stone of Visitor Centre, 27.v.2002; *Steuocarus ruficornis* (Stephens) (Curculionidae), Newhaven, East Sussex, TQ4502, in garden Malaise trap, 5.iv. and 17.iv.2003; *Scolytus pygmaeus* (F.) (Curculionidae: Scolytinae), Basildon, South Essex, TQ7290, 25.vi.2002 and Downham Woodland Walk, near Bromley, West Kent, TQ3871, 2.vii.2002, an elm-feeding species recently discovered in Britain.

KNILL-JONES, S. A. – *Dytiscus marginalis* L. (Dytiscidae), Totland, Isle of Wight, at MV light, 6.xi.2003.

MENZIES, I. S. – (1) Some local or rare species in Surrey. *Grauuoptera ustulata* (Schaller) (Cerambycidae), Wisley Common, Surrey, TQ0659, a single specimen beaten from birch sapling, 19.vi.2002; *Stictoleptura scutellata* (F.) (Cerambycidae), Bookham Common, Surrey, TQ1256, a single specimen along the Hollow Path flew on to Seth Gibson's shirt, 13.vii.2002, not previously recorded from the Common; *Douacia versicolore* (Brahm) (Chrysomelidae), Epsom Common, Surrey, TQ1960, several at rest on *Potamogeton* leaves in Blake's Pond, 22.ix.2002, apparently new to the well-recorded Epsom/Ashted area; *Zeugophora flavicollis* (Marsham) (Chrysomelidae), Epsom Common, Surrey, TQ1960, a single specimen beaten

from lower branches of mature aspen, 6.ix.2001, new to the well-recorded Epsom/Ashted area, although previously recorded locally at Bookham and Wisley Commons during the 1990s.

(2) Colour change in *Donacia bicolora* Zschach (Chrysomelidae) on exposure to sunlight. *Donacia bicolora* is normally a bright golden-greenish colour in June, but by late July and August, greenish-blue or even dark blue specimens could be seen along the River Wey at Elstead, Surrey (J.S. Denton, pers. comm. 1995). Two sets of specimens were exhibited. Those from Elstead, collected 7.viii.1995, showed a range of colours from golden to bluish-violet. The second card showed two June specimens collected when they were golden. They were placed on an outside window sill for about 10 days, exposed to full sunlight. One specimen had been shaded by a piece of eard and remained golden in colour, while the other, exposed to direct sunlight, had progressively changed in colour from golden to green to bluish. These specimens, demonstrating this experiment, had first been shown at the 1998 Annual Exhibition, but a compilation/editorial error resulted in the wrong species name, *D. obscura*, in the report (*British Journal of Entomology and Natural History*, **13**: 177). The exhibitor has not collected *Donacia obscura* Gyllenhal at Elstead and this erroneous record should be deleted.

OWEN, J. A. & MENZIES, I. S. – A series of photographs illustrating the life history of *Cryptocephalus primarius* Harold (Chrysomelidae). In Britain, this species has been recorded from very few sites and is associated with rock rose *Helianthemum nummularium*, feeding on its leaves in captivity, although other hosts are used on the continent. Photographs of male on rock rose; female hanging from rock rose stem, coating an egg with faecal material before dropping it; coated eggs showing pattern produced by hind tarsi of female during coating process; newly hatched larva with head protruding through opening at one end of egg coating; eases containing fourth instar larvae, one with larval head withdrawn so blocking opening in defence against parasitoids etc., the other with opening partially occluded as a temporary measure to protect the larva while moulting; fourth instar larva crawling along a rock rose stem; fifth (final) instar larva showing recently added (lighter) part of ease; empty ease which had contained a pupa. Before pupating, the larva blocks the ease opening with its faeces, the head capsule released on pupation reinforces this block. When it is ready to emerge, the adult turns round inside the ease and escapes by cutting a hole at the other end.

PAVETT, P. M. – Cerambycidae collected in Slovenia from 2–11 June 2003. Sixty-one species were collected, two of which have yet to be identified and fifty-nine species were displayed. *Oxymirus cursor* (L.) and *Rhagium bifasciatum* F., Caven Mala gora, 5.vi; *Rhagium mordax* (De Geer), Razdrto, Hudievec, 2.vi., Caven, Mala gora, 5.vi., Predmeja, Volkova bajta, 5.vi.; *Rhagium inquisitor* (L.), Caven, Mala gora, 5.vi., Predmeja, Volkova bajta, 5.vi., Lokve, Mala Lazna, 9.vi.; *Stenocornus meridianus* (L.), Dolenja vas, Rakov Skoijan, 3.vi.; *Dinoptera collaris* (L.), Razdrto, Hudievec, 2.vi., Dragonja, Krizisee, Stena pri Dragonja, 8.vi., Borst Skrlina nr. River Dragonja, 8.vi.; *Ganrotes virginea* (L.), Razdrto, Hudievec, 2.vi., Dolenja vas, Rakov Skoijan, 3.vi.; *Pidonis lurida* (F.), Dolenja vas, Rakov Skoijan, 3.vi., Caven, Mala gora, 5.vi.; *Cartodera holosericea* (F.), Pliskoviec, Ledita, 7.vi.; *Grammoptera ruficornis* (F.), Razdrto, Hudievec, 2.vi., Caven, Mala gora, 9.vi.; *Alosterna tabacicolor* (De Geer), Razdrto, Hudievec, 2.vi., Dolenja vas, Rakov Skoijan, 3.vi., Caven, Mala gora, 9.vi.; *Pseudovadonia livida* (F.), Brje Doli, 7.vi., Otosee, 10.vi.; *Judolia erratica* (Dalman), Otosee, 10.vi.; *Judolia cerambyciformis* (Schrank), Razdrto, Hudievec, 2.vi., Dolenja vas, Rakov Skoijan, 3.vi., Borst Skrlina nr. River Dragonja, 8.vi., Caven, Mala gora, 9.vi., Predmeja, Volkova bajta, 9.vi.; *Anoplodera*

sexguttata (F.), Razdrto, Hudicevec, 2.vi., Dragonja, Krizisce, Stena pri Dragonja, 8.vi.; *Vadonia imitatrix* (Daniel & Daniel), Dragonja, Krizisce, Stena pri Dragonja, 8.vi.; *Anastrangalia sanguinolenta* (L.), Caven, Mala gora, 5.vi.; *Anastrangalia dubia* (Scopoli), Dolenja vas, Rakov Skocjan, 3.vi., Razdrto, Hudicevec, 4.vi., Predmeja, Volkova bajta, 9.vi., Caven, Mala gora, 9.vi.; *Corymbia cordigera* (Füssly), Strunjan, Ronek, cliffs above svetega kriza, 11.vi.; *Corymbia maculicornis* (De Geer), Razdrto, Hudicevec, 6.vi.; *Corymbia fulva* (De Geer), Brje Doli, 7.vi., Dragonja, Krizisce, Stena pri Dragonja, 8.vi., Strunjan, Ronek, cliffs above svetega kriza, 11.vi.; *Rutpela maculata* (Poda), Razdrto, Hudicevec, 2.vi., Dolenja vas, Rakov Skocjan, 3.vi., Otlica, Sinji vrh, Rob, 5.vi., Osoce, 10.vi.; *Leptura quadrifasciata* L., Razdrto, Hudicevec, 6.vi.; *Stenmrella bifasciata* (Müller), Brje Doli, 7.vi., Dragonja, Krizisce, Stena pri Dragonja, 8.vi., Borst Skrlina nr. River Dragonja, 8.vi., Strunjan, Ronek, cliffs above svetega kriza, 11.vi., Borst Skrlina nr. River Dragonja, 11.vi.; *Stenmrella melanura* (L.), Razdrto, Hudicevec, 4.vi., Dragonja, Krizisce, Stena pri Dragonja, 8.vi., Borst Skrlina nr. River Dragonja, 8.vi.; *Stenmrella nigra* (L.), Razdrto, Hudicevec, 2.vi., Nova vas, Volcje, Blosko jezero, 3.vi., Otlica, Sinji vrh, Rob, 5.vi., Brje Doli, 7.vi., Borst Skrlina nr. River Dragonja, 8.vi.; *Stenmrella septempunctata* (F.), Dragonja, Krizisce, Stena pri Dragonja, 8.vi., Borst Skrlina nr. River Dragonja, 8.vi.; *Tetropium fuscum* (F.), Caven, Mala gora, 5.vi.; *Molorchus minor* (L.), Dolenja vas, Rakov Skocjan, 3.vi., Nova vas, Volcje, Blosko jezero, 3.vi.; *Glaphyra umbellatarii* (Schreber), Razdrto, Hudicevec, 2.vi.; *Stenopterus ater* (L.), Dragonja, Krizisce, Stena pri Dragonja, 8.vi., Borst Skrlina nr. River Dragonja, 8.vi.; *Stenopterus flavicornis* Küster, Dragonja, Krizisce, Stena pri Dragonja, 8.vi.; *Stenopterus rufus* (L.), Razdrto, Hudicevec, 4.vi., Pliskovica, Ledina, 7.vi., Dragonja, Krizisce, Stena pri Dragonja, 8.vi., Osoce, 10.vi., Strunjan, Ronek, cliffs above svetega kriza, 11.vi.; *Obrinus brunnellus* (F.), Predmeja, Volkova bajta, 9.vi.; *Cerambyx scopoli* Füssly, Borst Skrlina nr. River Dragonja, 8.vi., Osoce, 10.vi.; *Callidium violaceum* (L.), Predmeja, Volkova bajta, 5.vi.; *Phymatodes testaceus* (L.), Razdrto, Hudicevec, 2.vi.; *Xylotrechus antilope* (Schönherr), Osoce, 10.vi.; *Clytus arietis* (L.), Razdrto, Hudicevec, 2.vi., Caven, Mala gora, 5.vi., Predmeja, Volkova bajta, 5.vi.; *Clytus rhamni* (Germar), Dragonja, Krizisce, Stena pri Dragonja, 8.vi.; *Plagionotus arcuatus* (L.), Osoce, 10.vi.; *Echinocernus floralis* (Pallas), Borst Skrlina nr. River Dragonja, 11.vi.; *Chlorophorus figuratus* (Scopoli), Dragonja, Krizisce, Stena pri Dragonja, 8.vi.; *Cyrtoclytus capra* (Germar), Dragonja, Krizisce, Stena pri Dragonja, 8.vi.; *Herophila tristis* (L.), Borst Skrlina nr. River Dragonja, 8.vi.; *Morimus funereus* (Mulsant), Razdrto, Hudicevec, 2.vi., Borst Skrlina nr. River Dragonja, 8.vi., Caven, Mala gora, 9.vi.; *Monochamus sutor* (L.), Lokve, Mala Lazna, 9.vi.; *Monochamus sartor* (F.), Lokve, Mala Lazna, 9.vi.; *Leiops nebulosus* (L.), Razdrto, Hudicevec, 2.vi.; *Saperda scalaris* (L.), Otlica, Sinji vrh, Rob, 5.vi., Razdrto, Hudicevec, 6.vi., Osoce, 10.vi.; *Stenostola dubia* (Laicharting), Razdrto, Hudicevec, 2.vi.; *Oberea linearis* (L.), Razdrto, Hudicevec, 2.vi.; *Agapanthia cardui* (L.), Razdrto, Hudicevec, 2.vi., Borst Skrlina nr. River Dragonja, 8.vi., Strunjan, Ronek, cliffs above svetega kriza, 11.vi.; *Agapanthia cynarae* (Germar), Strunjan, Ronek, cliffs above svetega kriza, 11.vi.; *Agapanthia asphodeli* (Latreille), Dolenja vas, Rakov Skocjan, 3.vi.; *Agapanthia villosoviridescens* (De Geer), Razdrto, Hudicevec, 2.vi.; *Phytoecia nigripes* (Voet), Razdrto, Hudicevec, 2.vi., Dolenja vas, Rakov Skocjan, 3.vi.; *Phytoecia cylindrica* (L.), Razdrto, Hudicevec, 2.vi., Dolenja vas, Rakov Skocjan, 3.vi.; *Tetrops praeustus* (L.), Razdrto, Hudicevec, 4.vi.

SALISBURY, A. – *Rodolia cardinalis* (Mulsant) (Coccinellidae), Chelsea, Middlesex, TQ2777, from the garden of a public house, 30.ix.2003, a species new to Britain and identified by Roger Booth (see above).

SPILLING, C., MERRIFIELD, R. K. & MERRIFIELD, R. M. – *Trichius fasciatus* (L.) (Searabaeidae), Wem Moss NNR, Shropshire, SJ4734, a singleton captured in flight, 1.vi.2003.

TELFER, M. G. – Rare or notable British and Irish Coleoptera recorded during 2003. (1) Species from England and Scotland. *Bembidion bipunctatum* (L.) (Carabidae), Cranwich Pits, West Norfolk, TL79, found by Dave Boyee, 19.viii.2003, the first record for Norfolk; *Bembidion ephippium* (Marsham) (Carabidae), Minsmere RSPB Reserve, East Suffolk, TM4766, in pitfall traps on lagoon margins, 19–26.viii.2003 and Havergate Island RSPB Reserve, East Suffolk, TM4147, 12.ix.2003; *Bembidion quadripustulatum* A.-S. (Carabidae), Needingworth, Cambridgeshire, TL3572, from margins of silt lagoons, 19.ix.2003, second county record; *Bembidion virens* Gyllenhal (Carabidae), Easter Moy, Marybank, East Ross, NH4854, in shingle bank of River Conon, 27–30.vi.2003; *Tachys scutellaris* Stephens (Carabidae), Minsmere RSPB Reserve, East Suffolk, TM4766, in pitfall traps on lagoon margins, 19–26.viii.2003 and Havergate Island RSPB Reserve, East Suffolk, TM4147, 12.ix.2003; *Pterostichus longicollis* (Duft.) (Carabidae), Potman's Heath, East Kent, TQ8728, at margins of rising flood waters, 3.i.2003, together with several *Amara streuana* Zimm. (Carabidae) seen; *Zabrus tenebrioides* (Goeze) (Carabidae), Gog Magog 'Hills' south of Cambridge, Cambridgeshire, TL4854, still common in chalky field margin, 2003, where first noted in 1997; *Anisodactylus poeciloides* (Stephens) (Carabidae), Cliffe Pools RSPB Reserve, West Kent, TQ7177, 2003, Cliffe Pools supports perhaps the biggest UK population of this BAP Priority species; *Licinus punctatulus* (F.) (Carabidae), Dungeness RSPB Reserve, East Kent, TR0719, pair found under large stone in sandy area at south end of old ARC pit, 15.x.2003, exhibited live, they had been eating small helicid and zonitid snails using their asymmetrical jaws tin-opener fashion to open up the shells along their sutures; *Badister meridionalis* Puel and *Badister unipustulatus* Bonelli (Carabidae), Otmoor, Oxfordshire, SP51, one of each found in single tussock of *Deschampsia cespitosa*, 17.ii.2003; *Microlestes minutulus* (Goeze) (Carabidae), Cliffe Pools RSPB Reserve, West Kent, TQ7177, 2003; *Cymindis macularis* Fischer von Waldheim (Carabidae), Thetford Warren Lodge, West Suffolk, TL8484, searching extremely short lightly trampled lichen heath areas with scattered *Calluna* at night, 18–19.viii.2003, apparently the first record for about 10 years; *Ochthebius lenensis* Poppius (Hydraenidae), Munlochy Bay, Black Isle, East Ross, NH6652, in dried out saltmarsh pool, 29.vi.2003, a new site for this species; *Bledius bicornis* (Germar) (Staphylinidae), Minsmere RSPB Reserve, East Suffolk, TM4766, in pitfall traps on lagoon margins, 19–26.viii.2003, first record for Suffolk; *Enus hirtus* (L.) (Staphylinidae), Elmley Marshes RSPB Reserve, East Kent, TQ9667, a single adult found on cow pat, 6.viii.2003, photographs by John Walters exhibited, the specimen having been released back at Elmley a few days after capture, in captivity it devoured *Sphaeridium* sp. and *Aphodius rufipes* (L.); *Aphodius plagiatus* (L.) (Scarabaeidae), Cliffe Pools RSPB Reserve, West Kent, TQ7177, in or under mats of halophile plant litter, 2003; *Aphodius zeukeri* Germar (Scarabaeidae), Grange Farm, Cambridgeshire, TL3362, at MV light, 21–22.vii.2003; *Psanuodius asper* (F.) (Scarabaeidae), Dungeness RSPB Reserve, East Kent, TR0719, at south end of old ARC pit, 15.x.2003; *Trichius fasciatus* (L.) (Scarabaeidae), Culbin Sands, NH9762, 27–30.vi.2003; *Heterocerus flexuosus* Stephens (Heteroceridae), Minsmere RSPB Reserve, East Suffolk, TM4766, in pitfall traps on lagoon margins, 19–26.viii.2003; *Anapedus elongatulus* (F.) (Elaterridae), Povington, Lulworth Ranges, Dorset, SY88, beaten from oak branches, 13.v.2003; *Anapedus sanguinolentus* (Schrank) (Elaterridae), Barnsfield Heath, Dorset, SU1100, in hardwood railway sleeper date-stamped

1958, 18.iii.2003; *Dryophilus pusillus* (Gyllenhal) (Anobiidae), Langley Park, Buckinghamshire, TQ0082, at MV light, 14–15.vi.2003; *Caenoscelis ferruginea* (Sahlberg) (Cryptophagidae), Harlton, Cambridgeshire, TL3852, at garden MV trap, 12.vi.2003, apparently the second Cambridgeshire record; *Teredus cylindricus* (Olivier) (Bothrideridae), Langley Park, Buckinghamshire, TQ0082, by searching oak trunks at night lurking by *Lasius brummeus* runs, 14–15.vi. and/or 18–19.vii.2003; *Colydium elongatum* (F.) (Colydiidae), Langley Park, Buckinghamshire, TQ0082, by searching oak trunks at night, 14–15.vi. and/or 18–19.vii.2003; *Pycnomerus fuliginosus* Erichson (Colydiidae), Dendles Wood, South Devon, SX6161, one found by searching at night on exposed heartwood of dead oak, 8–9.v.2003; *Alphitophagus bifasciatus* (Say) (Tenebrionidae), St Ives, Cambridgeshire, TL37, at 15W actinic light, 2003; *Phymatodes testaceus* (L.) (Cerambycidae), Langley Park, Buckinghamshire, TQ0082, by searching oak trunks at night, 14–15.vi. and/or 18–19.vii.2003; *Coniocleonus nebulosus* (L.) (Curculionidae), Chamberlayne's Heath, Bovington military training area, Dorset, found by Andy Schofield of the RSPB's Taxa Teams on bare ground in an area of degenerate *Calluna*, ix.2003, exhibited live; *Gronops lunatus* (F.) (Curculionidae), Havergate Island RSPB Reserve, East Suffolk, TM4147, 12.ix.2003; *Platypus cylindrus* (F.) (Platypodidae), Langley Park, Buckinghamshire, TQ0082, by searching oak trunks at night, 14–15.vi. and/or 18–19.vii.2003.

(2) Species from The Irish Coleopterists Meeting, Portumna, 24–27 May 2003. *Blethisa multipunctata* (L.), *Agonum lugens* (Duft.), *Anthracus cuspatus* (Duft.), *Badister peltatus* (Panzer) and *Pauagaenus cruxmajor* (L.) (Carabidae), *Donacia aquatica* (L.), *Donacia bicolora* Zschach and *Oulema septentrionis* (Weise) (Chrysomelidae); *Badister meridionalis* Puel (Carabidae), Roo West, M3802, collected in the Burren, 24.v.2003, the third site for Ireland, Irish and English *B. meridionalis* show slight taxonomic differences.

WINOKUR, L. – *Pyrochroa coccinea* (L.) (Pyrochroidae), Black Wood, Woodman-cott, North Hampshire, SU5342, taken in flight, 8.vi.2002.

HEMIPTERA

BROOKE, S. E. – Notes on a five-year study of *Tenmostethus pusillus* (H.-S.) (Cimicidae) breeding on ash tree in Bedfordshire garden: regular monitoring of nymphs and adults on lower trunk suggests two generations per year, with adults in June and September/October; two species of scale were identified which are probably important food sources, *Chionaspis salicis* (L.) (Diaspididae) (willow scale) and *Pseudocherues fraxini* (Kaltenbach) (Eriococcidae) (felted ash scale).

CUMING, N. St J. – *Corizus hyoscyami* (L.) (Rhopalidae), Friston, Suffolk, TM4158, 9.v.2002, single example found whilst sweeping *Corydalis claviculata*, no other specimens found despite further visits; *Aphanus rolandri* (L.) (Lygaeidae), Aldringham, Suffolk, TM4661, 15.vii.2003, at least fifty specimens observed underneath dead *Corydalis claviculata* growing on a small area of recently scraped heathland.

HAWKINS, R. D. – A representative collection of British and European shieldbugs (Heteroptera families Acanthosomatidae, Cydnidae, Scutelleridae and Pentatomidae), shown to mark the publication of Hawkins, R.D. (2003) *Shieldbugs of Surrey*, published by Surrey Wildlife Trust.

HODGE, P. J. – Nine species of Hemiptera collected in south-east England in 2003, new vice county records marked with an asterisk (*): *Gouocerus acuteangulatus* (Gocz) (Coreidae), Sullington Warren, W. Sussex, TQ0914, 3.ix.2003, beaten off large fruiting hawthorn *Crataegus* bush; *Liorhyssus hyalinus* (F.) (Rhopalidae), Newhaven, E. Sussex, TQ4502, 8.vii.2003, one swept in ruderal grassland; *Nysius*

helveticus (H.-S.) (Lygaeidae), Weavers Down, W. Sussex, SU8130, 24.viii.2003, one swept off Ling *Calluna vulgaris*; Lord's Piece, W. Sussex, SU9917, 25.viii.2003, many swept off Bell Heather *Erica cinerea* and Stedham Common, W. Sussex, SU8521, 7.ix.2003, one swept off Bell Heather *Erica cinerea*; **Deraeocoris flavilinea* (Costa) (Miridae), Newhaven, E. Sussex, TQ4502, 14.vi.2003, males beaten off hawthorn *Crataegus* and Blackthorn *Prunus spinosa*; *Aquarius paludum* (F.) (Gerridae), Newhaven, E. Sussex, TQ4403, 16.ix.2003, abundant in former course of River Ouse; *Gerris argentatus* Schummel (Gerridae), Newhaven, E. Sussex, TQ4403, 16.ix.2003, one in former course of River Ouse; *Idiodon cruentatus* Panzer (Cicadellidae), Eelmoor Marsh, N. Hants, 19.viii.2003, SU8352, one swept off heather; *Macropsis unudax* (Fieber) (Cicadellidae), Newhaven, E. Sussex, TQ4502, 1.viii.2003, swept off elm *Ulmus* foliage; *Oliarus pauperi* Löw (Cixiidae), Riverside Park, Newhaven, East Sussex, TQ4302, 8.vii.2003, one swept off Creeping Thistle *Cirsium arvense*.

JONES, R. A. – *Brachycarenum tigrinus* (Schilling) (Rhopalidae), new to Britain: two specimens of this pretty bug were collected, one by sweeping and one by using a suction sampler in Battersea Park (TQ2877), Surrey (VC17), 28.vii.2003. It occurs throughout Europe and the Middle East, and its arrival in the UK was predicted by Hawkins (2003, *Shieldbugs of Surrey*). The site was an area of seeded grass that had failed because of the long dry summer. It was intended that this area should not be mowed, to allow long grass growth, as part of a project comparing the faunas of short mown lawn and 'hay meadow' cutting regimes. Most of the grasses had sprouted, then died and the site had grown up with a sparse straggling growth of weeds such as melilot, mayweed, mugwort and Guernsey fleabane. Also found on the same occasion were: *Liorhyssus hyalinus* (F.) (Rhopalidae), new to Surrey; *Rhopalus subrufus* (Gmelin) (Rhopalidae); *Stictopleurus abutilon* (Rossi) (Rhopalidae), see below; many (dozens) *Metapoplax ditomoides* (Costa) (Lygaeidae) and very many (scores) of *Nysius senecionis* (Schilling) (Lygaeidae).

Many specimens of *Stictopleurus abutilon* (Rossi) (Rhopalidae) and *S. punctatovenosus* (Goeze) (Rhopalidae) were found in several localities during 2003. These bugs have recently recolonised Britain after being thought extinct, the last records being from 1870 and 1948 respectively, until they were rediscovered in Britain in the late 1990s. The last few years have favoured the spread of both species, although during 2003 *S. punctatovenosus* appears to have been the commoner of the pair. Dry Street (TQ6986), Basildon, S. Essex, 13.x.2003, many (20–30) specimens including nymphs swept from yarrow, fleabane, mugwort etc, growing in non-grazed areas of paddocks, fields and meadows around a riding school and two adults of *S. abutilon* from fleabane. Battersea Park (TQ2877), 28.vii.2003, two specimens of *S. abutilon* and several nymphs swept and collected by suction sampler from an area of failed grass seeding now with straggling growth of melilot, mayweed, mugwort and Guernsey fleabane. Down House, Downe (TQ430610), W. Kent, 4.ix.2003, one specimen of *S. abutilon* swept from hayfield meadow. Ifield (TQ2437), E. Sussex, 29.ix.2003, one specimen of *S. punctatovenosus* swept from large meadow previously grazed, but recently left untouched. Sue Godfrey Nature Park, Deptford (TQ3777), London, one adult of *S. punctatovenosus* and several nymphs swept from mugwort and melilot, 9.vii.2003 and another adult on 5.ix.2003. This is a tiny 'brownfield' nature reserve in the centre of south-east urban London. More specimens were swept from mugwort growing on a small ridge of sand and brick rubble a short distance away in Deptford (TQ3777), 5.ix.2003.

Anthocoris minki Dohrn (Anthocoridae), from inside the galls of the communal aphid *Peupligus spyrothecae* Passerini (Aphididae), on the leaf petioles of

Lombardy poplars, Wandsworth Common (TQ2773), Surrey, 22.ix.2003. Very many specimens of this supposedly rare insect were found by carefully twisting open the now fully mature galls. Some galls contained up to five large nymphs. Also found inside one of the galls was a specimen of *Orius majusculus* (Reuter) and several hoverfly larvae. Most were probably the larvae of *Heringia senilis* Sack recently discovered new to Britain in *P. spyrothecae* galls in south-east London. Galls containing *Heringia* larvae usually contained few if any aphids.

A photograph of the fifth instar nymph of the box bug *Gonocerus acuteangulatus* (Goeze) (Coreidae), on Lawson's cypress, *Chamaecyparis lawsoniana*. It was beaten off the tree on Goose Island, one of the small islets on the ornamental lake in Battersea Park (TQ2877), on 28.vii.2003. Although the bug has been recorded on this tree species before (Hawkins, 2003, *Shieldbugs of Surrey*), these records were from autumn and spring, and it was previously suggested that they were merely overwintering. The bug flies readily so a variety of overwintering hosts is not unexpected. The appearance of a (wingless) nymph on the tree suggests that it was probably feeding there. The bug's phenomenal spread during the 1990s has been attributed to its change of foodplant from box to hawthorn, rose, apple and honeysuckle. The nymph was not kept, but future finds on conifers ought to be reared through since on the Continent a very similar species *Gonocerus jnniperi* (H.-S.) feeds on them.

MACZEY, N. – *Enpteryx decemnotata* Rey (Cicadellidae), new to Britain, specimens collected off potted garden sage *Salvia officinalis*, 17.viii.2002, and off *Mentha* sp. on 16.viii.2003 and 28.ix.2003, in a garden in Ascot, Berkshire, VC 22, SU9267; *Psanmotettix helvolus* (Kirschbaum) (Cicadellidae), new to Britain, four males collected at Bramble Bottom, near East Dean, E. Sussex, VC 14, TV5797, 23.viii.2000, found at 17 sites in a 1998–2000 survey of chalk grassland sites in southern England, a species that may have been widely overlooked due to confusion with *P. confinis* (Dahlbom) and *P. cephalotes* (H.-S.).

MERRIFIELD, R. M. – *Penpligus bursarius* (L.) (Aphididae), galls on leaf petioles of black poplar *Populus nigra* or hybrid poplar; *Penpligus populi* Courchet (Aphididae), gall in leaf midrib, both by River Severn near Dudmaston Estate, Shropshire, vi.2002, also shown at the Society's indoor meeting of 16 June 2003.

NAU, B. S. – Exhibit of species that were once scarce, rare or unknown in Britain that have shown a remarkable increase in numbers or rapid spread in summer 2003: *Dichroscytus gustavi* Josifov (Miridae), formerly scarce and declining on native juniper, widely established (e.g. Bedfordshire, Cambridgeshire, S. E. Brooke & B. S. Nau) in 2003 on planted *Juniperus chinensis*; *Lygus pratensis* (L.) (Miridae), extremely local for many years, widespread in SE England in 2003 (B.S. Nau); *Psallus psendoplatani* Reichling (Miridae), first British record at Sunbury in 2001 (R. D. Hawkins), in numbers on sycamore at St Ives, Huntingdonshire in 2003 (B. S. Nau); *Nysius cynoides* (Spinola) (Lygaeidae), new to Britain, Yorkshire (W. R. Dolling), Hertfordshire (J. Widgery), Bedfordshire (B. S. Nau), all 2003; *Nysius graminicola* (Kolenati) (Lygaeidae), first British record in 1977, Dorset (A. A. Allen), second record in 2001, Hampshire (R. Dickson), in numbers at sites in Hertfordshire, 2003 (J. Widgery); *Sphragisticus nebulosus* (Fallén) (Lygaeidae), first British record at Lakenheath, Suffolk, 2000 (M. Shardlow & C. Plant), Icklingham, Suffolk, 2003 (B. S. Nau); *Stictopleurns abutilon* (Rossi) (Rhopalidae), described as 'extinct' in Kirby's 1992 review, widespread in SE England in 2003 and numerous in places; *Stictopleurns punctatonervosus* (Goeze) (Rhopalidae), described as 'extinct' in Kirby's 1992 review, widespread in SE England in 2003 and numerous in places; *Liorhyssus*

hyalinus (F.) (Rhopalidae), until recently, a rare vagrant not listed in Kirby 1992, scattered across SE England in 2003.

SHARDLOW, M. & TAYLOR, R. – *Nezara viridula* L. (Pentatomidae), new to Britain, two live adults bred from larvae found in summer 2003 at Camley Street educational nature reserve, King's Cross, London.

STEWART, A. J. A. – *Batracomorphus allionii* (Turton) (Cicadellidae), new to Britain, single female collected by suction sampler, Yew Hill Nature Reserve, Hampshire, SU4526, 5.viii.2003, collected in taller vegetation of grassland–scrub transition containing dyer's greenweed, *Genista tinctoria*, which is presumed to be its host plant; *Batracomorphus irroratus* Lewis (Cicadellidae), common at St Catherine's Hill, Hampshire, 5.viii.2003, single female exhibited for comparison to previous species.

HYMENOPTERA

COLLINS, G. A. – The ant, *Formica candida* Smith, taken 24.vii.2003 at Westend Common, Surrey, new to the county. This site is similar to New Forest bogs where this uncommon ant also occurs.

GIBBS, D. J. – Some uncommon bees and solitary wasps taken in 2003. Sphecidae: *Stigmus pendulus* Panz., 15.vii, Montacute House, Som. ST4917, first county record; *Psenulus schencki* (Tournier), 9.vi, Avon Gorge, Som., ST5673; *Mimesa bicolor* Jurine, 17.viii, Ham Hill, Som., ST4816; Andrenidae: *Andrena nitidiuscula* Schenck, 3.vii and 8.viii, Hengrove Park, Bristol, Som., ST5968, Halictidae: *Lasioglossum laticeps* (Schenck), 23.vi, Charlton Bay, Devon, SY3090. Anthophoridae: *Nomada flavopicta* (Kirby), 30.vii, Barrington Court, Som., ST5918.

HALSTEAD, A. J. – Some local sawflies and a sphecid wasp taken in 2003. Tenthredinidae: *Dolerus megapterus* Cameron, male, 9.iv, Grannish Moor, nr Aviemore, Elgin, NH901149; *Strongylogaster mixta* (Klug), male and *Pristiphora ambigua* (Fall.), female, both 11.iv, The Hermitage, nr Dunkeld, Mid Perth., NO003417; *Periclista albida* (Klug), female, 27.iv, Brookwood Lye, nr Brookwood, Surrey, SU964574; *Rhogogaster genistae* (Hartig), male (males rare in this species), 14.v, Arboretum stage I, RHS Garden, Wisley, Surrey, TQ0657; *Heterarthrus microcephalus* (Klug), female, 15.v, river bank, RHS Garden, Wisley, Surrey, TQ0659; *Pristiphora geniculata* (Hartig), female, 15.v, Seven Acres, RHS Garden, Wisley, Surrey, TQ0658; *Eutomostethus gagathinus* (Klug), male and *E. punctatus* (Konow), male, both 18.v, Brookwood Lye, nr Brookwood, Surrey, SU9657; *Tenthredo atra* L., female – yellow legged form, col. M. Parker, 16.vii, Dale Pond, The King's Forest, nr West Stow, Suff., TL8071; *Phyllocolpa scotaspis* (Forster), female, 16.vii, Lackford Lakes, nr Lackford, Suff., TL8870. Sphecidae: *Ectenminis dives* (Lep. & Brulle), male, 14.vii, Chalk Lane, The King's Forest, nr Thetford, Suff., TL8375.

HENWOOD, B. – A photograph of a larva of *Cimbex connatus* Schrank (Cimbridae) on *Alnus cordata* at Kingsteignton, Devon, SX8772 in August 2003. Larvae of this uncommon sawfly have also been found on *Alnus cordata* at Torquay and Newton Abbot, Devon.

JONES, R. A. – Photographs of the broad-leaved helleborine, *Epipactis helleborine* (L.) Crantz being pollinated by the social wasp, *Dolichovespula sylvestris* (Scop.) at a site near High Elms, W. Kent, TQ444620, on 23.vii.2003. Several specimens of the wasp were seen visiting the flower spikes of this wild orchid. Pollinia from the helleborine flowers were clearly visible attached to the wasps' faces. *Vespula vulgaris* has previously been recorded pollinating this plant but it now seems likely that other social wasps are also attracted to the flowers.

KNIGHT, G. – A sawfly in the genus *Allantus* apparently new to Britain . During fieldwork carried out by Liverpool Museum for the Countryside Council for Wales, a female was taken in a water trap at Traeth y Mwnt, SN1951. A male and female were taken in a malaise trap about 3 miles away at Creigau Gwbert, SN1649. In Benson's 1952 RES key, the females would key out to *Allantus calceatus* (Klug) but there are distinct differences. In the Cardiganshire specimens the stigma is bicoloured, pale at the base and dark at the apex; the abdomen has a reddish girdle on tergites 5 and 6, not 4 and 5; the mesopleura is uniformly smooth and shining, unlike that of *A. calceatus* which is dull and coarsely punctured above. The male specimen has a completely black abdomen and it does not key out cleanly in Benson. The identification of these specimens requires confirmation but they may be *Allantus laticinctus* (Lepeletier). This southern and central European species has not previously been recorded in Britain but it matches the description of the Cardiganshire specimens.

MERRIFIELD, R. K & R. M. – A specimen of the chalcid wasp, *Chalcis biguttata* Spinola, taken 16.vii.1999 at Tollesbury Wick, an Essex Wildlife Trust reserve. TL9609. This rare insect develops as a parasitoid of aquatic stratiomyid fly larvae.

ORAM, D. – Two colour forms of the hornet, *Vespa crabro* L. In central Europe there are two colour forms: *V. crabro crabro* has a dark coloured dorsal mesothorax; in *V. crabro germana*, the dorsal mesothorax has a V-shaped red tracing. The exhibitor showed 3 workers and a female *V. crabro germana* taken October 2003 at Southleigh, Colyton, Devon and 2 worker *V. crabro crabro* collected in September 2003 at Horto, Pelion, Greece.

SALISBURY, A. – The parasitoid complex of the red lily beetle, *Lilioceris lili* (Scop.) in the UK. Four parasitoids of lily beetle larvae are known to occur in Europe. To date two of these and a hyperparasitoid have been found in Britain. These are: a eulophid wasp, *Tetrastichus setifer* Thomson; an ichneumonid wasp, *Lemophagus errabundus* Grav.; an ichneumonid *Mesochorus lilioceriphilus* Schwenke. The identification of the last mentioned remains to be confirmed. It was reared in 2001 by the exhibitor from a lily beetle larva parasitised by *L. errabundus* and collected at the RHS Garden, Wisley, Surrey. *Tetrastichus setifer* was first recorded in Britain by Mike Cox in 1997 and is now known to be widely distributed in southern England. There can be up to 17 *T. setifer* larvae in a lily beetle larva. *Lemophagus errabundus* was added to the British list by the exhibitor when it was reared from lily beetle larvae collected in 1999 at the RHS Garden, Wisley. It has since been found elsewhere in SE England where it can parasitise up to 65% of lily beetle larvae during May–June.

NEUROPTERA

COLLINS, G. A. – A green lacewing, *Peyerimhoffina gracilis* (Schneider), taken at MV light, 4.viii.2003, South Croydon, Surrey. This species was first reported in Britain in 2002 from collections made from 1999 onwards at Silwood Park, Berks. In 2003 it was found in Hants and Surrey. The Surrey record occurred at a time of migrant activity but the N. Hants specimens were taken in spring and autumn, suggesting that *P. gracilis* is becoming established.

DERMAPTERA

BOWDREY, J. P. – Three species of earwig collected in Essex. The common earwig, *Forficula auricularia* L., male and female, 17.vi.1992 found under coastal driftwood, Bradwell-on-Sea, N. Essex, TM0912; also a macrolabic form, female, 14.vii.1993,

under driftwood at Colne Point, St Osyth, N. Essex; the lesser earwig, *Labia minor* (L.), male and female, 28.xii.1998, breeding in a plastic compost bin, Thorpe-le-Soken, N. Essex, TM173229; Lesne's carwig, *Forficula lesnei* Finot, 17.ix.2003, male swept from *Teucrium*, female beaten from *Sarothamnus*, Lower Lodge Farm, Wivenhoe, N. Essex, TM0322.

ORTHOPTERA

JONES, R. A. – A photograph of a female speckled bush cricket, *Leptophyes punctatissima* (Bosc), infected by and about to succumb to a fungal discase, probably an *Entomophthora* sp. The bloated cricket was clinging to a leaf on a dogwood bush, near High Elms, W. Kent (TQ4462) on 23.vii.2003.

MISCELLANEOUS

DICKERSON, B., EDMUNDS, R. & MANNING, D. – Information about a website devoted to British leaf-mining insects [www.leafmines.co.uk], illustrated with photographs taken from the website. The website was set up in 2002 and has nearly 300 images of mines caused by Diptera, Lepidoptera, Coleoptera and Hymenoptera. The information is also available in CD form. Additional images of mines and the causal insects are needed to develop the website, especially of non-lepidopterous leaf-miners.

SIMPSON, M. – A selection of trade catalogues and equipment supplied by Janson & Son, a London firm of entomological dealers. These items are from the Simpson collection of entomological memorabilia. Janson & Son were based at 44 Great Russell Street, almost directly opposite the British Museum. Another branch at 446 The Strand opened in 1939 and traded under the name of The Entomology Co. This branch did not survive the effects of the war but the Great Russell Street business continued until the mid-1970s. The exhibit included undated sales catalogues of books and papers from eminent entomologists such as H. Grose-Smith, C.O. Waterhouse and Rev. Pickard Cambridge. Also shown were two 'Requisites and Specimens' catalogues issued by W H Janson & Son, 1938, and The Entomology Co, 1939. Items of Janson equipment exhibited were a 20" × 16" kite net, a 6" pond net, an 8" × 4" pocket box, 5" curved forceps, an 8 division mahogany pin box and a mahogany insect pin depth gauge. There were also photographs of a 20 drawer Janson mahogany insect cabinet.

Also exhibited was a diary of insect records, mainly Lepidoptera, made by an unknown Essex woman during 1935 to 1947. This diary was donated to the Simpson collection by Joe Firmin. The entries in the diary give some clues about the writer but suggestions as to her identity would be welcomed by the exhibitor.

UFFEN, R. W. J. – Some pear leaves affected by pear rust fungus, *Gymnosporangium sabinae* DC. This disease is uncommon in Britain, possibly because its alternate host in the spring is juniper, particularly *Juniperus sabini*. The exhibitor had been given leaves from a garden at Potters Bar, and had subsequently found infected pear trees at Tewin Orchard and in his own garden at Welwyn, all in Herts. He wondered whether the fungus might be spreading to garden junipers in the way that some juniper feeding insects have done.

CORRECTION TO 2002 HYMENOPTERA REPORT

Page 188 Halstead, A.J. *Loderus pratensis* (Fall.) should be *Loderus pratormi* (Fall.).

WINTER INSECTS

HAWKINS, R. D. – Live specimens of several different orders of insects that overwinter as adults. These included an earwig, *Apterygida media* (Hagenbach) (Dermaptera, Forficulidae), a groundhopper, *Tetrix undulata* (Sowerby) (Orthoptera, Tetrigidae) and several bugs (Hemiptera). The latter were *Eurygaster testudinaria* (Geoffroy) (Scutelleridae), *Piezodorus lituratus* (Fabr.), *Palomena prasina* (L.), *Eurydema oleracea* (L.) (Pentatomidae), *Rhopalus subrufus* (Gmelin) (Rhopalidae), *Gonocerus acuteangulatus* (Goeze) and *Gonocerus juniperi* (H.-S.) (Coreidae). The insects originated from Surrey and northern France, the latter including *G. juniperi* which does not at present occur in Britain. The two specimens were found on *Juniperus communis* on a steep chalky hillside at Wavrans-sur-l'Aa in the Pas-de-Calais on 22.viii.2003.

MERRIFIELD, R. K. & R. M. – A fly found in midwinter with snow lying on ground: *Liaucalus virens* (Scopoli) (Diptera, Dolichopodidae), in garden at Eastcote, Middlesex, VC21 (TQ108877), 28.xii.2000, on outside wall of house (previously shown at Indoor Meeting of 9 April 2002). This fly occurs throughout Britain wherever fresh water is trickling down a vertical rock-face. The garden has a pond with a pump-driven moss-covered 'cascade' which may have provided suitable habitat, although the pump is not often running.

WARING, P. M. – Empty pupae of butterflies and moths showing some of the immense variation in pupal form within the Lepidoptera. Most but by no means all species overwinter as pupae. Species shown were *Cossus cossus* (L.) (Cossidae), *Synanthedon scoliaefornis* (Borkh.) (Sesiidae), *Ennomos quercuaria* (Hufn.) (Geometridae), *Polygonia c-album* (L.) (Nymphalidae), *Catocala spousa* (L.) and *Tyta luctuosa* (D.&S.) (Noctuidae).

YOUNG, D. A. – A display of fourteen common species of moths which can be recorded in the winter months between mid-November and February. Species exhibited included *Brachionycha sphinx* (Hufn.) (Lepidoptera, Noctuidae), *Apocheima hispidaria* (D.&S.), *Agriopsis leucophaearia* (D.&S.), *Eraunias defoliaria* (Clerck) and *Colotois peunaria* (L.) (Geometridae).

Last call for flea specimens

The Biological Records Centre is planning to publish an enlarged second edition of the *Atlas of the Distribution of British Fleas*, originally published in 1974. For this to be as up-to-date as possible could readers send any specimens that they have for identification and recording. Providing they are accompanied by data any quantity, from singlets to hundreds, will be welcome, whether they come from cats, dogs, from bird nesting boxes to voles, rabbits, badgers, etc., all will be welcome. Identifications will be given and the specimens incorporated in R.S.G.'s collection unless their return is required, in which case return postage would be appreciated. Send the specimens to R.S. George, 54 Richmond Park Avenue, Bournemouth, BH8 9DR. Tel.: 01202 515238.

OBITUARY

DR JOHN DAVID BRADLEY



John Bradley was born in London on 24 December (Christmas Eve) 1920 and died at Chard, Somerset, on 4 January 2004. Most of his adult life was spent in the Department of Entomology, British Museum (Natural History), now known as The Natural History Museum, London. I had been working there for four years when John joined the staff in 1938; an immediate and life-long friendship ensued and I was in touch with him, apart from the war years, either personally, or latterly by telephone, at least monthly. On the outbreak of war in 1939 John joined the Army and the next six years were spent mainly in North Africa, Italy and Austria.

On his return to the Museum he found himself immersed in the urgent task of curation of the vast collection of Microlepidoptera amassed by Edward Meyrick, which had been acquired in 1938 (it consisted of over 100,000 specimens including more than 14,000 unmarked types). This, in turn, led to his association with J. F. (Jack) Gates Clarke, who was seconded from the United States National Museum in Washington (The Smithsonian) to work on the Meyrick types. This work was published by the BM(NH) in eight thick volumes as *An illustrated catalogue of the Meyrick types* (1955–1970).

In 1964 John transferred to the Identification Service of the Commonwealth Institute of Entomology (subsequently Commonwealth Agricultural Bureau, Institute of Entomology) but his workstation continued to be at his old desk in the Natural History Museum (see portrait). In 1967/8 he was an external student of the Charles University (Foreign Branch) in Prague and was awarded the equivalent of Ph.D.

He became an authority and consultant in the vast field of Microlepidoptera worldwide and an enthusiastic field worker on the British species. One of his major

works (jointly with W. G. Tremewan and the inspired art-work of Arthur Smith) was the two volume *British Tortricoid Moths* which was published by the Ray Society, London, 1973/1979.

He was an Honorary Member of the British Entomological & Natural History Society which he joined in 1946 when it was known as the South London Entomological & Natural History Society. In 1951 he became a Fellow of the Royal Entomological Society and he also served on the Council and as Vice-President of the Ray Society.

The *Entomologist's Gazette* was founded in 1950 and John was one of the first subscribers: he was a member of its editorial panel from 1953 to 1979, acting as Assistant Editor or Editor from 1954 to 1965.

On his retirement he became acutely aware, cut off as he was from the library resources of the Museum, of the need for an up-to-date and accurate list of the Lepidoptera of Great Britain and Ireland and bent his energies to that end. The *Checklist of the Lepidoptera recorded from the British Isles* was published under his own imprint in 1998, a second, revised, edition appearing in 2000.

He was a quiet and reserved man but was comfortably at ease with a host of fellow entomologists. In all our long acquaintance I never heard him say an unkind word about anybody—indeed the only harsh words he ever uttered were about something over which he had no control—inclement weather on a collecting trip!

E. W. CLASSEY

SHORT COMMUNICATION

Combative behaviour in *Anomoia purmunda* (Harris) (Diptera: Tephritidae).—On 5.vii.1999, I observed several individuals of *Anomoia purmunda* assembled on the patio at my home near Loddon Bridge, Earley, Reading (SU 763716). The patio was some 20 metres from a large hawthorn *Crataegus monogyna* Jacq. (Rosaceae), the most probable host plant, though *Pyracantha coccinea* Roemer and *Cotoneaster* sp., also known host plants were present. There were about 13 flies in the group, and near its centre a pair of individuals were standing with their heads touching (Fig. 1). They attempted to push each other over backwards. The remaining individuals appeared to be watching the proceedings. I observed this behaviour for about 10 to 12 minutes, though not continuously since I needed to fetch a camera. When one of the combatants lost its balance the combat ceased and another two individuals began the same type of behaviour. During the time I was watching I never observed more than one pair of individuals fight at any one time. The other flies continued to watch the proceedings intently.

Interactions between males belonging to the family Tephritidae are reviewed by Preston-Mafham & Preston-Mafham (1993). A number of species, particularly those that have a range of food plants rather than a single host, form leks for display and ritual combative behaviour. *Anomoia purmunda* appears to be one of these. Similar activities also occur in Drosophilidae. Both families are unusual in the animal kingdom in that males rather than females emit sex pheromones, and there are obvious advantages in having jousting competitions so that the concentration of pheromones in one place will make it easier for the females to detect males when the latter are some distance from the food plant.

The tribe Trypetini, to which *A. purmunda* belongs, contains a number of species that feed, display and mate on other substrates (Han 2000). In the celery fly *Enleia heraclei* (L.), adult insects are hardly ever seen on their host plants whereas the



Fig. 1. Jousting by the tephritid *Anomoia purmunda*.

feeding and mating sites occur on nearby trees (Leroi 1997, quoted in Han 2000). Head butting behaviour has been consistently observed among males in this tribe.

Lekking behaviour has other advantages for large and well-fed males such as the Mediterranean fruit fly *Ceratitis capitata* (Wiedemann). Kaspi, Taylor & Yuval (2000) fed adults of this fly on diets containing different levels of protein and found that those consuming protein-rich diets were more likely to emit pheromone in leks. Among the protein-fed males, large individuals tended to mate successfully earlier than smaller ones.

Males of the tephritid genus *Phytalmia* from Australasia are reported to engage in ritualised combat in a manner similar to *A. purmunda*, but these species have long cheek projections which assist in the pushing match (Moulds, 1977, quoted in Preston-Mafham & Preston-Mafham 1993). Species of Diopsidae and Platystomatidae use their eye stalks for similar purposes. Jousting appears to be rare among Diptera other than in the families mentioned.—RON BOYCE, 447c Wokingham Road, Earley, Reading RG6 7EL.

REFERENCES

- Han, H. Y. 2000. Phylogeny and behavior of flies in the tribe Trypetini (Trypetinae) pp. 253–297 in Aluja, M. & Norrbom, A.L. (Eds). *Fruit flies (Tephritidae): phylogeny and evolution of behaviour*. CRC Press, Boca Raton, 944 pp.
- Kaspi, R., Taylor, P. W. & Yuval, B. 2000. Diet and size influence sexual advertisement and copulatory success of males in Mediterranean fruit fly leks. *Ecological Entomology* **25**: 279–284.
- Leroi, B. 1977. Relations biocénologiques de la mouche du céleri, *Philophylla heraclei* L. (Diptères, Tephritidae): nécessité de végétaux complémentaire pour les populations vivant sur céleri pp. 443–454 in Labeyrie, V. (Ed.) *Comportement des Insectes et Milieu Trophique*. Tours France, Sept. 13–17. *Colloque Int. C.N.R.S.* **265**, 493 pp.
- Moulds, M. S. 1977. Field observations on behaviour of a north Queensland species of *Phytalmia* (Diptera: Tephritidae). *Journal of the Australian Entomological Society* **16**: 347–352.
- Preston-Mafham, R. & Preston-Mafham, K. 1993. *The encyclopedia of land invertebrate behaviour*. 320 pp. Blandford.

BOOK REVIEWS

The Sepsidae (Diptera) of Europe. By Adrian C. Pont & Rudolf Meier. Fauna Entomologica Scandinavica 37 (2002). 221pp. Price €70. ISBN 90-04-12477-2.

Most Sepsidae are small shiny black ant-like flies that often make themselves conspicuous by ambling around on dung. Despite this propensity, the family lacks a user-friendly English handle, and, after rejecting the North American name, the authors resisted the temptation to translate the Swedish and German names. This should not deter the army of acalyptrate recorders since these flies have as many bizarre curlicues as found in any other family. British dipterists will be familiar with Adrian Pont's Royal Entomological Society (RES) Handbook to the family, in which 25 species were keyed out with great thoroughness that left little doubt to the identity of most specimens. Together with Rudolf Meier, he has now produced a splendid sequel to the whole European fauna of 44 species in nine genera.

The book maintains the high standards of presentation, clarity and detail that characterises the Fauna Entomologica Scandinavica series. Opening chapters occupying 23 pages discuss the morphology of adults and immature stages, classification and phylogeny, biology, distribution and zoogeography, literature, and collecting, preserving and identification. The rest of the book covers check lists, keys and species accounts. A tabulated catalogue of distribution at the end includes Britain and Germany as well as Denmark and Sweden, and 'Europe' of the title extends eastward to about 40°E and includes the Caucasus Mountains. If you cannot find what you want in this book, it will be in one of the 500 or so references – an astounding bibliography for a rather small family of only low economic importance.

The biology is covered well. The authors do not dwell on such aspects as the often mentioned massive swarms of *Sepsis fulgens* Meig., but draw on much recent research into sepsid behaviour. We learn, for instance, that the males of most species are not much interested in mating displays, with a few exceptions such as the fancy-footed *Themira annulipes* (Meig.). Instead, many sepsids show precopulatory mate-guarding in which a male grabs the female while she is ovipositing (presumably using up the last suitor's sperm) before the couple mooch off into the undergrowth for a bout of mating. Guarding females before mating (rather than after) is apparently rare in insects. There is violence as well as sex when butch *Sepsis punctum* (F.) males turf off smaller males from desirably large females. The bizarre front legs of many sepsids help keep the mounted males well anchored to the wing-bases of the females, and this presumably raises the level of violence needed to dislodge a rival. On a more prosaic note, there is a very useful tabulation of substrate preferences, based on different life stages, where the insular British can smile at the mention of yak and bear dung along with that of the usual domestic animals.

The keys are based closely on Adrian Pont's RES Handbook. Many couplets are the same, and all mention several characters so that there can be no doubt about which path to take. Morphological nomenclature follows the rather clumsy North American system, so those used to the RES key will need to learn the same couplets in the new language. Most figures referred to in the keys occur on the same page or close by, so not too much page-turning is needed.

Each species account gives a diagnosis, description of the adult and larva, distribution and biology. The male genitalia and the characteristic legs are drawn for all species, and some other features for many – altogether there are 477 high quality figures, averaging 11 per species. The figures are clear and well labelled, which is

useful since some pleural sclerites are drawn in isolation so orientation can take a while to get used to.

Rudolf Meier reveals his experience in the detailed treatment of the larvae and eggs which are drawn with great care. Larvae can be keyed to genus but only a few species appear to be identifiable as larvae. The only marked omission in the book is the absence of information on the puparia, and it is in strong contrast to, say, the coverage given in the RES Handbook to Sphacroceridae. This is a shame since the puparia are the bits that palaeoecologists make much use of.

For British dipterists, the book will allow correct identification of three species additional to those in the RES key (*Themira bilobata* Anders., *Sepsis nigripes* Meig., *Meroplus fukuharai* (Iwasa) – my one specimen of *Meroplus minutus* (Weid.) turned out to be this rapidly expanding species). Given that three species have been added to the British list in about 22 years, other species may well occur here, so it would be a mistake to ignore this scholarly but eminently accessible book.

C. MARTIN DRAKE

Field Guide to the Moths of Great Britain and Ireland. Paul Waring and Martin Townsend, illustrated by Richard Lewington. British Wildlife Publishing 2003. 432 pp with over 1600 illustrations. Paperback £29.95, hardback £45.00. ISBN 0 9531399-2-1.

At the time of the publication of this book, Butterfly Conservation supported by the British Entomological and Natural History Society and other organisations, were in the planning stage of setting up a new, and hopefully permanent moth recording scheme for the British Isles. If their plans come to fruition the success of such a scheme will depend not only on achieving a good coverage of the whole country but on the accuracy of records submitted to, and accepted by, the recording scheme.

Whilst this new publication will be of interest and use to lepidopterists of all levels of experience it is clearly aimed primarily at those recorders with less experience who have taken up moth recording in recent years. Considerable thought has been given to the structure of this book to help them identify a moth, firstly to the correct family and then to the actual species.

The book commences with a comprehensive introductory chapter that clearly explains how to use the field guide to identify specimens. This is followed by clear definitions of the headings used in the description of each species forming the bulk of the book. The authors have bravely, and I think successfully, tried to define terms such as national status, distribution, well-distributed and frequency, terms that are very subjective and the use of which depends on the experience of the individual recorder.

The authors have deliberately avoided the use of biological terms throughout the book. Thus such familiar terms as costa, termen and apex are replaced by leading edge, outer edge and tip respectively, a sensible simplification or another example of the modern habit of 'dumbing down' according to your personal viewpoint. However these terms are well-illustrated in the informative section on moth anatomy.

The inclusion of illustrations and notes on species of microlepidoptera likely to turn up in recorders' moth traps is a good idea and should be helpful to new moth recorders. I liked the section on field techniques having long thought that too much reliance is placed on sitting around a moth trap recording species as they arrive. We should remember, with admiration, that the lepidopterists of past generations

managed to discover, identify and describe virtually all the moths on the British list without using the power of the electron, car or motorways! The authors may consider expanding this section in any future revised edition. The introductory chapter concludes with short sections on conservation and entomological societies.

The bulk of the book is taken up by the species accounts with species listed as per Bradley (2000), with both the Bradley and European checklist numbers being quoted. Each species description commences with the coded information on status and distribution as defined in the introductory chapter. The text that follows is excellent, full use being made of the information gathered by recorders since Bernard Skinner's classic book (*Colour Identification Guide to the Moths of the British Isles* – Viking) first published in 1984. The up-dated information on the scarcer resident and migrant species will be of interest and use to all lepidopterists regardless of their level of experience. The big difference between this field guide and previous publications lies in the illustrations. It appears that many of those new to moth recording have difficulty in identifying a moth resting in a trap from the set specimens illustrated in other guides. Here Richard Lewington, with his customary skill, has illustrated most species in their natural resting position. I say most because some are illustrated in the set specimen mode and I am not sure on what basis they have been selected for different treatment. Rather than the illustrations appearing at the end of the guide, they appear in batches throughout the book either within or at the end of the species accounts of families or groups. Whether you like this arrangement or not, is again a matter of personal opinion but if it helps recorders make accurate identifications by quickly getting to the correct family, it will be justified.

In both the text and illustrations additional guidance is given for the more difficult identifications with antennae, hind wing or other diagnostic characteristics being illustrated as appropriate. My major doubt with these illustrations concerns some of the *Eupithecia* Pug species, a notoriously difficult group for many recorders. Photographs of a selection of larvae appear throughout the text. These photographs include those for *Acronicta tridens*, *A. psi* and our two Copper Underwing species which are much more easily and accurately identified from their larvae than the adult moths, with the added bonus that the recorder also gets a confirmed breeding record and the food plant used in his/her recording locality.

The authors have sensibly relegated doubtful or imported species to an appendix rather than perpetuate their inclusion in a listing of British moths to which they have no real claim. There are further appendices of authors' names, food plants and the common and scientific names of British moths and acknowledgements.

At 432 pages, and weighing in at nearly 840 grams, I wonder how well the softback version will stand the rigours of practical field work. It is a pity that there seems to have been a short print run of the hardback version for I suspect that many of us would prefer to have a hardback volume even at the additional cost involved.

The authors and illustrator are to be congratulated on this field guide, the product of hundreds of hours of planning and work. It is a worthy successor and companion to Bernard Skinner's book mentioned earlier and it will be of invaluable help to the many people now becoming interested in moths, surveying, conservation and recording. With this field guide, and other recent publications covering the larvae of British moths and the *Eupithecia* species, moth recorders are now better served than ever in the past to make accurate identifications.

DAVID YOUNG

British and Irish Pug Moths—a guide to their identification and biology. By A. M. Riley and the late G. Prior (Colchester, Harley Books, 2003).
Hardback £29.50. ISBN 0946589 51 8.

We have come to expect a high standard of production from Harley books and this is no exception, nor is the rather lengthy time in anticipation!

The book begins with instructions on how to use it, there follows a brief historical review and a short chapter on breeding and rearing pugs. The main section contains descriptions of each species, for the most part the treatment is conventional. The section entitled "Life History" covers both the biology and the morphology of the early stages, with sections on flight period and habitat, distribution and finally collecting and rearing.

No description is given of the genitalia but the following chapter contains drawings of the male aedeagus, with a few sketches showing valva shape, then the corpus bursae of the females. The sclerotised plates on the underside of the 8th segment are shown *in situ* only. The larvae are shown by black and white drawings only, since the markings are more diagnostic than the colour.

Distribution maps are given using Watsonian vice-counties with three different symbols: a large filled circle denoting 'Generally distributed or widespread', a smaller filled circle denoting 'Not generally distributed' and an open circle denoting 'Uncertain status'. There follow three coloured photographic plates of set specimens of the adults in systematic sequence. These are then repeated in five plates where the arrangement is different so that similar looking species are placed together. All the moths are shown life sized. There are then four plates of adult specimens at rest in nature. The book concludes with a glossary, annotated references and index.

Pug Moths frequently give problems to people using moth traps since they are often difficult to distinguish, especially when worn. Lists of species in Rothamsted traps, for example, often used to end with "*Eupithecia* spp." and presumably this prompted the senior author to embark on this task. The photographs in this book, both of set and live specimens are mostly of excellent quality and should assist users with identification. The number of "similar species" in the species descriptions may seem daunting at first, but could prove useful.

There is often a debate whether small moths of this size should be illustrated enlarged or life size, certainly life size preserves the 'giz' of the species, but when so many illustrations are printed it might have been more helpful for some of the comparative illustrations to have been enlarged.

The author's drawings are of pleasing appearance and appear accurate. However the decision to limit illustrations to the aedeagus only of the males and bursa only of the females in a specialist book is puzzling. Nowhere is it stated from which side the aedeagus is drawn, and in different preparations some aspects look different. It is stated that the valva of the male is unreliable as a diagnostic feature. One has to respond that there is more to the genitalia than the valvae and the aedeagus; the uncus at times has useful characters. Again with the females the papillae and ostial plates are omitted which can have useful features. The male abdominal plate on the eighth sternite is correctly cited as an important character, but nowhere is the whole plate illustrated. The figures showing the plates *in situ* give the impression that there is always the same amount of the plate visible. This is not so, in different specimens it may be more or less hidden beneath the seventh segment.

Distribution maps are often prepared on a vice-county basis, as in *the Moths and Butterflies of Great Britain and Ireland* for microlepidoptera, for which there are comparatively few records. For macrolepidoptera, even the less well known ones,

surely maps could have been produced on a 10 km square basis which would have better distinguished coastal species from more generally distributed ones. It is also a pity that for species with distinct subspecies such as *denotata* (Campanula/Jasione Pug) and *intricata* (Freyer's/Edinburgh/Mere's Pug) no distinction in the maps is made between the subspecies which are geographically separated. No attempt has been made to distinguish between records from different dates which means that little is shown about those species whose range has expanded or contracted.

The essential thing about Pug Moths is that they are best bred. Excellent specimens result whose identity is not in doubt and much more is learnt about their habits. Although lip service is paid to this understanding it is not borne out by the emphasis in the book on adult specimens. 265 photographs of adult moths are included, but not one photograph of a larva. Many cryptic larvae, such as those of *E. millefoliata* Rössler, the Yarrow Pug, would make fascinating illustrations which would encourage people to get out into the field to study the larvae, but sadly these are lacking.

Those who work moth traps may find the book helpful in determining wild caught specimens, but it is a pity a specialist book of this kind should not have been more thorough, treating the larvae, ecology and morphology more fully. Serious taxonomists will find that Volume 4 of *The Geometridae of Europe* by Mironov contains more detailed information, except for distribution within Britain.

DAVID AGASSIZ

BENHS FIELD MEETINGS

Mission Carr, Nottinghamshire, 17 May 2003

Leaders: **Paul Waring** (PW) & **Sheila Wright** (SW). This was the third BENHS field meeting at the Mission Carr nature reserve of the Nottinghamshire Wildlife Trust. The previous two, on 13 July 2002 and 17 August 2002, are reported in Waring & Wright (2003a & b). The first of these reports includes an introduction to the history and features of the site and the previous entomological work which had taken place. The date for this meeting was chosen because there has been very little moth recording on this site at this season in previous years.

This meeting was an example of a very productive session despite a poor weather forecast. PW drove from Peterborough through heavy rain for the 11.00 h start, reaching the site at 10.30 h under an ominous, dark sky. Four of us assembled for the morning, PW, Jeremy Fraser (Management Plans Officer for Nottinghamshire Wildlife Trust [NWT]), Derek Scott (local ornithologist) and Steve Wain (bird ringer). Sheila Wright was only able to attend for the evening session, when we were joined by Craig Howat and Brian Hedley. The sun appeared almost straight away and was with us for brief intervals throughout the day. With the exception of a couple of short but threatening showers, further rain held off until 16.00 h, enabling good numbers of caterpillars to be beaten from foliage and a few butterflies were seen on the wing, including several rather worn Green-veined White *Pieris napi* (L.) in the rides, a Large White *P. brassicae* (L.) and a Peacock *Inachis io* (L.). It was observed that fencing of the boundary of the reserve and of the open grassland in the south-east corner was underway. No clearance of scrub woodland to widen the rides had yet taken place. On arrival, Skylarks *Alauda arvensis* L. and Lapwings *Vanellus vanellus* (L.) were vocal. A Garden Warbler *Sylvia borin* (Boddaert) was singing at the car park on the southern boundary of the reserve and two Grey Partridge *Perdix*

perdix (L.) were seen chasing along the farm track to the car-park. A Cuckoo *Cuculus canorus* L. was heard in the fields to the south of the reserve and two flew over us. A Turtle Dove *Streptopelia turtur* (L.) was heard calling from amongst the dense sallow carr at the south end of the reserve. A Yellowhammer *Emberiza citrinella* L. was seen on a nest on the north bank of the ditch along the northernmost east-west ride. During the evening session a Woodcock *Scolopax rusticola* L. was noted roding over PW's light-traps and a Long-eared Owl *Asio otus* (L.) flew out from some hawthorn scrub near the northernmost ride and passed over our heads, giving us a very good view.

By day the site was explored extensively. The iridescent green longhorn *Adela reammurella* (L.) (Incurvariidae) was assembling around Hazel *Corylus avellana* L. and other bushes. Moths flushed from vegetation included the Common Carpet *Epirrhoe alternata* (Müll.), Common Wave *Cabera exanthemata* (Scop.), Common White Wave *C. pusaria* (L.), Clouded Border *Lomaspilis marginata* (L.) and Brown Silver-line *Petrophora chlorosata* (Scop.). A Grey Birch *Aethalura punctulata* (D. & S.) was found at rest on a fence-post. A caterpillar of the Purple Hairstreak butterfly *Quercusia quercus* (L.) was beaten from the largest Pedunculate Oak *Quercus robur* (L.) at the east end of the northernmost ride. This is the first record of the larval stage from the site and confirms breeding. The Purple Hairstreak was only discovered in the adult stage on this site in 2002. Other larvae of Lepidoptera beaten from oak during the day included the Winter Moth *Operophtera brumata* (L.), Engrailed *Ectropis bistortata* (Goeze), Dotted Border *Agriopis marginaria* (Fab.), Common Quaker *Orthosia cerasi* (Fab.), Small Quaker *O. cruda* (D. & S.), Satellite *Eupsilia transversa* (Hufn.) and Dunbar *Cosmia trapezina* (L.). Beating Common Hawthorn *Crataegus monogyna* Jacq. produced large numbers of larvae of Early Moth *Thera primaria* (Haw.) and Winter Moth, several Mottled Umber *Erannis defoliaria* (Clerck), Dotted Border, Engrailed, Yellowtail *Enproctis similis* (Fuess.), a Copper Underwing *Amphipyra pyramidea* (L.) (2 cm in length), a Pale Eggar *Trichiura crataegi* (L.) (2.5 cm) and a Pale Brindled Beauty *Phigalia pilosaria* (D. & S.) (3 cm). Larvae of the Early Moth were particularly numerous on large Common Hawthorn bushes growing by the ride amongst sallow carr, with a dozen or more falling onto the tray at each spot, all nearly fully grown and of several colour forms. The Pale Eggar was found in the same situation but the Pale Brindled Beauty and Yellowtail were on low bushes growing in the open by the northern-most ride. A larva of the July Highflyer *Hydriomena furcata* (Thunb.) (2 cm) was beaten from Grey Willow *Salix cinerea* L. A final instar larva of the Drinker moth *Entrix potatoria* (L.) was found on grass in a semi-shaded ride.

In the evening PW set up four Robinson light-traps on generators in the southwest quarter of the reserve and one actinic under the largest oak at the east end of the northernmost east-west ride. Two of the Robinson traps were in bays along the main north-south ride, one was in the car park on the southern edge of the reserve and one was by reeds on the bank of the boundary ditch. It was dry and breezy at dusk with an air temperature of 12°C and 100% cloud cover. The temperature did not fall below 10°C all night. The traps were operated until dawn while PW slept in the car. A list of 36 species of macro-moths was compiled from the five traps, with the majority of species represented by singletons at one or more of the traps. The most productive trap caught 21 species (less than two-thirds of the total). None of the species was Nationally Scarce. Perhaps the most noteworthy species were the Birch Mocha *Cyclophora albipunctata* (Hufn.), Water Carpet *Lampropteryx suffumata* (D. & S.), Early Tooth-striped *Trichopteryx carpinata* (Bork.) and Ruddy Highflyer *Hydriomena ruberata* (Frey.). The Ruddy Highflyer has only been recorded at one

other locality in Nottinghamshire, on the Mother Drain at Misterton Carr (by Neil Wood), in the same 10km square as Misson Carr. Most of the other moths we recorded can be found in semi-rural gardens. The hawk-moths were represented by the Poplar Hawk *Laotloe populi* L. (a total of 18 including 10 in one trap) and the Eyed Hawk *Smeriuthus ocellata* (L.) (just one individual).

Sheila Wright and Craig Howat operated a 125W light until midnight at the junction of the main north–south ride with the central east–west ride and amongst the 32 species of macro-moths they recorded they added the White-spotted Pug *Eupithecia tripunctaria* H.-S., which is quite well-distributed in Nottinghamshire. Brian Hedley set up an actinic trap at the junction of the main north–south ride with the southernmost east–west ride and captured moths of 11 common species before packing up at about midnight.

The tapes around the positions of the stands of Meadow-rue *Thalictrum flavum* (L.) were still in place from the previous year (see Waring & Wright 2003b for their significance). By this stage in the year the Meadow-rue was approximately 20 cm tall.

The leaders would like to thank all those who supported this meeting. We also thank Jeremy Fraser, Management Plan Officer for NWT, for inviting us to hold this field meeting, making the necessary arrangements, accompanying us in the field and for arranging financial support from NWT for PW to organise, attend and report on this event. We thank Rob Atkinson, a Reserves Management Officer of NWT, for transporting us and our light-trapping gear in the NWT four-wheel drive vehicle to various parts of the reserve. A copy of the full list of species recorded has been deposited with Dr Sheila Wright, Curator of Natural History, Nottingham Museum, and County Moth Recorder for Nottinghamshire, and with the Nottinghamshire Wildlife Trust.

REFERENCES:

- Waring, P., 2002. Wildlife reports—Moths. *British Wildlife* **14**: 135. (Marsh Carpet foodplant protection measures and search for False Mocha reported)
- Waring, P. & Wright, S. 2003a. Field meeting report—13 July 2002: Misson Carr, Nottinghamshire. *British Journal of Entomology and Natural History* **16**: 258–262
- Waring, P. & Wright, S. 2003b. Field meeting report—17 August 2002: Misson Carr, Nottinghamshire. *British Journal of Entomology and Natural History* **16**: 268–272

Red Farm Flash, North Somercotes, Lincolnshire, 31 May 2003

Leader: **Paul Waring (PW)**. The main aim of this field meeting was to explore the site for presence of the Marsh Moth *Athetis pallustris* (Hbn.) which is known from similar coastal dune-slack habitat a few miles further south along the Lincolnshire coast but has never been reported from Red Farm Flash. This was the second BENHS field meeting at Red Farm Flash. The first, on 8 June 2002, proved to be slightly too late for the Marsh Moth that year (see Waring, 2002 & 2003), although in other years that date would have been appropriate. In anticipation of another early spring, the date of the return visit in 2003 was advanced by a week and advertised for 31 May. As in 2002, PW visited the known site on the night before the field meeting to establish that the moth was on the wing. In 2002, this pre-meeting visit to the known site had resulted in the capture of two very worn males when nine mv light-traps were operated all night on 7 June. The pre-meeting visit this year, on 30 May 2003, produced three male Marsh Moth using four Robinson traps. One of the three males was in very good condition, with strong banding, the second was weakly banded and a little worn, the third was rather more worn, having lost some scales from both forewings and having a chip in the outer margin of one. These

captures indicated that the moths were well on the wing but probably not past their peak numbers. All three were captured in one trap, placed in the shelter of a clump of Sea-buckthorn *Hippophae rhamnoides* L.. Red Farm Flash is described and illustrated in Waring (2003). It has even less scrub for shelter, mostly Sea-buckthorn located along the sandy ridge on the eastern or seaward side of the dune-slacks, where there is also much Rosebay Willowherb *Chamaenerion angustifolium* (L.). Only the leader and John Walker (site manager) attended the meeting, which began at 20.00 hrs, after a hot, sunny day. On arrival, while erecting the first of the light-traps in good daylight just before the sun set, the leader was passed by a sow badger *Meles meles* L. and her three cubs, who trotted within 3 m of him, emitting chippering contact calls as they travelled along a well-worn badger-track through the Sea-buckthorn. There was a strong sea breeze at the time, which may have covered up any noises made by PW in putting the trap together; at any rate the badgers were oblivious to his presence. Several male Fox moths *Macrothylacia rubi* (L.) were observed racing about in the wind at 20.20 h and a Barn Owl *Tyto alba* flew overhead at 20.30 hrs. A Heron *Ardea cinerea* was observed fishing by open water.

Four Robinson light-traps were set up and operated all night while PW slept in the car, John Walker having left once the traps were running. At dawn the catches were recorded in full.

A grand total of 39 species of macro-moths was recorded for the night. Unfortunately, no Marsh Moths were seen. Nor were the nationally scarce Starwort *Cucullia asteris* (D.&S.), Lyme-grass *Photodes elyui* (Treit.) nor White Colon *Sideris albicollis* (Hbn.) which were seen here on the field meeting in 2002; possibly the date was just a little too early for the latter.

The morning was warm and sunny after the traps had been packed back into the car. Birdsong filled the air and butterflies were well on the wing by 09.00 h. Several Common Blue *Polyommatus icarus* (Rott.) and Small Heath *Coenonympha pamphilus* (L.) were seen in the open sward and singletons of the Grizzled Skipper *Pygus malvae* (L.) and Wall Brown *Lasiommata megera* (L.). The sward height in the dune-slacks was measured by the Boorman drop-disc method using a disc of hardboard 30 cm in diameter (see Waring, 1992). Measurements varied from 6 cm on the higher sandy areas where Yellow Rattle *Rhinanthus minor* L. was abundant, to 10 cm in the lower-lying parts where rushes (*Juncus* sp.) were present. The sward was shorter and not as lush as at the site known to be occupied by the Marsh Moth, but the main larval foodplant, Ribwort Plantain *Plantago lanceolata* L., was frequent. There were many flowering orchids *Dactylorhiza* sp. which are not a feature of the occupied site. The catches contained a small number of geometrid moths, mainly in the trap most sheltered from the wind, so there was a chance of catching such slightly built moths as the Marsh Moth, but the majority of the catch comprised more thick-set noctuids, sphingids, arctiids and lasiocampids. Having conducted two light-trapping sessions for adult Marsh Moth in pretty favourable weather, considering the coastal location, the leader would like to try the well-known technique of constructing litter piles in the hope of attracting and locating larvae of the Marsh Moth on this site in 2004.

The leader would like to thank John Walker of English Nature for arranging the necessary access permission with local land-owners and for helping to set the traps at the start of the meeting and Butterfly Conservation for providing financial support to organise, attend and report on the event as part of the Action for Threatened Moths Project. Copies of the list of moths have been supplied to English Nature, the Lincolnshire Wildlife Trust and the Lincolnshire County Moth Recorder.

On the same night as this meeting, 31 May 2003, BENHS members Adrian Russell and others light-trapped with over a dozen mv lights at Wicken Fen, Cambridge-

shire, a former haunt of the Marsh Moth but from which it has not been recorded for several decades. They saw no sign of the Marsh Moth. At present the single known site in Lincolnshire, near Saltfleetby, is proving to be the only locality in Britain where the Marsh Moth can be found reliably.

REFERENCES

- Waring, P. 1992. Slipping a disc in the grass. *British Butterfly Conservation Society News* **50**: 51–53.
- Waring, P. 2002. Wildlife reports—moths. *British Wildlife* **13**: 438.
- Waring, P. 2003. Field meeting report—8 June 2002—Red Farm Flash, North Somercotes, Lincolnshire. *British Journal of Entomology and Natural History* **16**: 251–252.

Bradlaugh Fields, Northamptonshire, 28 June 2003

Leader: **Gavin Boyd**.—Seven local naturalists joined eight BENHS members on a sunny, dry summer's day in exploring two small local nature reserves managed by the Beds., Cambs., Northants. and Peterborough Wildlife Trust. These form part of a more extensive area of public open space at Bradlaugh Fields just three kilometres from the centre of Northampton.

During the morning the hummocky ground of the Hills and Hollows Reserve was examined. This was once a limestone quarry but after long disuse it is now overgrown with a mixture of calcicole and calcifuge herbs and grasses together with some gorse and broom scrub. Recently three bare 'scrapes' have been created by deliberate removal of topsoil to encourage ruderal, pioneer vegetation. After lunch the party visited the Scrub Field Reserve where a few hectares of unimproved limestone grassland have survived the growth of the town around it and provide a haven for several plants now rare in the wider countryside such as Knapweed Broomrape, *Orobanche elatior* Sutton, Yellow Rattle, *Rhinanthus minor* agg., and Corn Caraway, *Petroselinum segetum* (L.). The limestone forms a porous cap over impermeable shales so that on the lower parts of the site there is a series of seepages and springs where Reedmace, *Typha latifolia* L. and other marsh plants flourish. On the occasion of the meeting few specialist wetland insects were taken around these seepages, conditions being rather too dry. However, some interesting craneflies, including *Gonomyia recta* Tonnoir, were found associated with a tree-shaded tufa stream on the northern edge of the site.

Records from the meeting (both Reserves) reported to the leader by the end of 2003 totalled about 390 species—284 insects from nine orders together with a useful list of 105 plants, molluscs, birds and spiders compiled, mostly, by Dr Ann Smith and her husband Adam.

The five dipterists among the party, led by Alan Stubbs and Jonathon Cole, had a productive day, recording 172 species between them, though Jonathon thought his list rather uninspiring since he had not managed to turn up any examples of notable or Red Data Book species. Pride of place among the flies was taken by a male specimen of *Dorycera graminum* (Fabricius), (Ulidiidae) swept by Alan from a scrubby part of 'Hills and Hollows'. This is a Biodiversity Action Plan priority species with very, very few recent records. Alan promptly dubbed it The Phoenix Fly—with hindsight an ill-omened choice of name since later in the summer part of the reserve was burnt over by young, local arsonists. We wait to see whether, in 2004, "The Phoenix" will rise from the ashes!

Also of interest to the dipterists were huge swarms of *Pachygaster atra* (Panzer) (Stratiomyidae) observed hovering around and above isolated trees and bramble

patches in 'Hills and Hollows' shortly before mid-day. The local hoverfly *Chrystoxmm verralli* Collin was seen at both reserves and Alan reported apparent ovipositing by a female of this species on grass blades within young blackthorn scrub adjoining a boundary hedge at Scrub Field.

Tony Drane turned in a list of over sixty species of beetle, mostly taken by sweeping. Among these were three Notable (B) records: *Rhagonycha lutea* (Müller) (Cantharidae) on a mature oak at 'Hills and Hollows'; *Podagrica fuscicornis* (L.) (Chrysomelidae) on Musk Mallow; and *Otiorhynchus rancens* (F.) (Curculionidae) on Bladder Campion at Scrub Field.

Only a handful of records were received of Hemiptera, Hymenoptera, Orthoptera, Dermaptera and Odonata, and all the 21 species of Lepidoptera reported were common, at least locally (though it was good to confirm that the Marbled White, *Melanargia galathea* (L.) was still present so close to the town centre). The most esoteric batch of records came from Dom Collins who collected and identified fifteen species of thrips (Thysanoptera) from the two sites. Seven of these do not appear to have been noted previously from Northamptonshire, though, as Dom wryly comments "This reflects the lack of previous collecting [in the county] rather than anything of hitherto unrealised biogeographical significance". Perhaps his most interesting find was *Rubiothrips silvarum* (Priesner) on Lady's Bedstraw in 'Hills and Hollows'. This species is believed to be specially adapted to live on *Galium verum* L., widespread on the reserve. Prior records exist from just nine counties in the southern half of England.

The leader is grateful to all those who supported the meeting (particularly when they sent in records!) and to the local Wildlife Trust for permission to visit the Reserves. Jane Pearman deserves special thanks. As Reserves Officer and warden for the sites she accompanied the party throughout the day, dispensing information on the history and management of the areas to visitors and carrying the first-aid box in case anyone tripped over their feet while engrossed in the study of the insect fauna.

Misson Carr, Nottinghamshire, 6 September 2003

Leaders: **Paul Waring** (PW) & **Sheila Wright** (SW).—This was the fourth BENHS field meeting at Misson Carr. The first three, on 13 July 2002, 17 August 2002 and 17 May 2003, are reported in Waring & Wright (2003a,b, 2004). The first of the reports includes an introduction to the history and features of the site and the previous entomological work which had taken place. The date was chosen to complement the other meetings and fit in with the other commitments of the leaders. On this date we hoped we might find the Double Kidney *Ipimorpha retusa* (L.), Brown-veined Wainscot *Archana dissoluta* (Treit.), Haworth's Minor *Celaena haworthii* (Curt.), even the Rush Wainscot *A. algae* (Esp.) and perhaps late examples of the Portland Moth *Actebia praecox* (L.)—all of which have been recorded occasionally in Nottinghamshire, but not yet at Misson Carr. However, both the day-time and evening sessions were aimed at attracting members with other entomological interests in addition to lepidopterists. In all, thirteen people attended, eight during part of the day and ten for the night-work. The majority were primarily interested in the Lepidoptera, but it was a pleasure to have Dominic Collins with us, whose main interest is in the Thysanoptera. As a result twelve species of Thysanoptera were recorded. All are first records for the site and some are believed to be first county records. Voucher specimens have been deposited in the collection of the Central Science Laboratory, Sand Hutton, York. All the species are widespread and well distributed in Britain and would be expected at a site such as Misson Carr.

This is only the second list of Thysanoptera published from a BENHS field meeting. For the record, the species were *Anaphothrips obscurus* (Müller), *Aptinothrips rufus* (Gmelin), *Frankliniella tenuicornis* (Uzel), all from grasses, on which they are known to breed; *Chirothrips manicatus* Haliday from amongst Common Reed *Phragmites australis* (Cav.) Trin.; *Thrips atratus* Haliday, *T. flavus* Schrank, *T. fuscipennis* Haliday, *T. major* Uzel, and *T. vulgatissimus* Haliday all mainly from Rosebay Willowherb *Chamerion angustifolium* (L.) Holub. but attracted to the flowers of many plants; *Thrips tabaci* Lindeman and *T. validus* Uzel beaten from a mixture of Common Reed and thistles and a male probable *T. physapus* L. taken from Fleabane *Pulicaria dysenterica* (L.) Bernh.

The meeting started at 11.00 h. Much of the day was spent exploring the site and selecting places for light-trapping. During this process Speckled Wood butterflies *Pararge aegeria* (L.) were seen in the more shaded parts of the rides, a Red Admiral *Vanessa atalanta* (L.) in perfect condition was recorded basking on a leaf of Bramble *Rubus fruticosus* L. agg. and the Common Darter dragonfly *Sympetrum striolatum* (Charp.) was frequent along the main north–south ride. A single Wall Brown *Lasiommata megera* (L.) was seen, basking in sunshine on bare ground by the car-park on the south side of the reserve at 15.10 h and a Stoat *Mustela erminea* L. was observed briefly at almost the same spot as it streaked into the cover of low vegetation. PW tried to “squeak it” back into view by imitating the call of a snared Rabbit *Oryctolagus cuniculus* (L.), but the Stoat was not seen again. The weather was overcast, mild and calm, threatened rain in the early afternoon but sunshine predominated from mid afternoon.

Some quite remote parts of the site were chosen for light-traps, to maximise the chance of recording the target species, and the traps were set up in the late afternoon, during which the use of the four-wheel drive vehicle supplied by the Nottinghamshire Wildlife Trust proved invaluable. PW set up four Robinson traps on two generators. Two of the traps were in woodland (by compartments Cii and Cvi) along the southern-most of the three east–west rides on the site. This was to maximise catches of species dependent on woody perennials, which comprise the majority of the species on the wing at this time of year and to possibly find the Double Kidney. One was placed by a stand of birches in damp ground in the hope of detecting any second generation Waved Black *Parascotia fuliginaria* (L.) which may have been produced as a result of the hot dry summer. This species was recorded at Misson Carr for the first and only time on the BENHS field meeting on 17 August 2002 and is a new county record for Nottinghamshire (Waring & Wright, 2003b). One trap was placed in a reed-bed (at Civ) for wainscot moths and one in the open sandy grassland habitat (Fig. 1) in the south-east corner of the reserve (Dviii), for the Portland moth and any other species which might occupy this most localised of habitats on the reserve. SW operated a 125 W mv light over a sheet further north in similar open grassy habitat at the eastern end of the central ride (Cvii), while Sandy Aitken operated a light and sheet further west along the central ride amongst scrub woodland (Bvii). Brian Hedley operated a Skinner trap fitted with an actinic tube at the junction of the southernmost east–west ride with the main north–south ride. Calm dry weather prevailed for the light-trapping but the sky was clear and the moon was nearly full. The temperature at dusk (20.00 h) was 11°C, dropping to 8°C by midnight and falling to a chilly minimum of 3°C for the night. By midnight, when all but PW and Rob Atkinson packed up to leave, the following were among the more interesting of the moths recorded: Autumnal Rustic *Eugnorisma glareosa* (Esp.) and Black Rustic *Aporophyla nigra* (Haw.) (first of both by 22.00 h, captured by everyone), Angle-striped Sallow *Euargia paleacea* (Esp.) (one only, in SW’s trap, a

Nationally Scarce species), Canary-shouldered Thorn *Eumomos alniaria* (L.) and Frosted Orange *Gortyna flavago* (D. & S.). The Frosted Orange was recorded from Misson Carr for the first time in 2003, but it is evidently well established in parts of the site where there are large-bore flower-stems in which to breed.

In the four traps which were operated all night by PW, the following were the main differences in catches noted at dawn the following morning:

Site	In south ride by Cii	In south ride by Civ	In south ride by Cvi	Dviii
Selected species	Birches with sallow carr, blackthorn scrub willowherbs, Wild angelica and reeds.	Sallows with much Common Reed and Purple Small- reed.	Under oak with small birch by ride.	Open, sandy grassland, with sallows on woodland edge.
<i>Mythinna pallens</i> (L.)	7	6	1	29
<i>Phlogophora metictlosa</i> (L.)	–	1	–	7
<i>Noctua pronuba</i> (L.)	1	3	2	7
<i>Chortodes pyrina</i> (Haw.)	–	1	–	1
<i>Engnorisma glareosa</i>	–	2	–	–
<i>Xanthia icteritia</i> (Hufn.)	4	7	–	5
<i>Xestia xanthographa</i> (D. & S.)	10	7	10	1
<i>Gortyna flavago</i> (D. & S.)	4	4	1	1
<i>D. caeruleocephala</i>	1	–	–	–
Total no. of macro-moths	42	36	20	58
Total no. of macro- mothspecies	16	12	8	13

The Figure of Eight *Diloba caeruleocephala* (L.) is of note because it has a rather thinly scattered distribution in Nottinghamshire and has suffered a large-scale national decline in the last decade according to the Rothamsted Insect Survey (Ian Woiwod and Kelvin Conrad, pers. comm.). None of the five target species were recorded, nor any additional Waved Black. Of course, this does not mean these species are not present, only that we did not see them on this particular night.

We noted that the verges of the main rides had been cut within the previous month. The ride-side stands of Meadow-rue *Thalictrum flavum* (L.) which we had marked in 2002 with tapes for the cutter to avoid (see Waring, 2002; Waring & Wright, 2003a,b) were still standing, and the tapes were still in place. These plants are essential for the nationally scarce Marsh Carpet moth *Perizoma sagittata* (Fabr.) which breeds on this site. Many of the seedpods on some of the flower-heads were still green, but others had many mature brown seedpods. However, very few showed any signs which would indicate that larvae of the Marsh Carpet had been feeding on them. Where the larvae have been numerous, it is easy to find pods with holes in the sides where the larvae have removed portions of the pod wall. We found a total of only two or three pods with such damage, in the four stands examined. At present the Meadow-rue seems to be confined to the rides at Misson Carr, where it is very localised. We have been unable to find any stands within the compartments, despite searches on all four of the BENHS field meetings in 2002 and 2003.



Fig. 1. Misson Carr, Notts, 6 September 2003. Sandy grassland in the south-east corner of the reserve (Dviii) at dusk. Photo: Paul Waring.

Between the afternoon and night sessions a most enjoyable, well attended and convivial hot meal was had from the carvery at the pub in the nearby village of Newington. The visit raised the total number of species of macro-moths, including immigrant species, recorded at Mission Carr to 283. The leaders estimate that the site probably supports well in excess of 300 species. The total macro-moth list for the site now includes 2 Nationally Scarce category A species (Na), 5 Nationally Scarce category B species (Nb), and 45 Nationally Local species.

The leaders would like to thank all those that attended, and particularly Rob Atkinson of the Nottinghamshire Wildlife Trust for transporting us and our light-trapping gear in the NWT four-wheel drive vehicle to various parts of the reserve. A copy of the full list of species recorded has been deposited with Dr Sheila Wright, Curator of Natural History, Nottingham Museum, and County Moth Recorder for Nottinghamshire, and with the Nottinghamshire Wildlife Trust.

REFERENCES

- Waring, P., 2002. Wildlife reports— Moths, *British Wildlife* **14**: 135. (Marsh Carpet foodplant protection measures and search for False Mocha reported)
- Waring, P. & Wright, S., 2003a. Field meeting report—13 July 2002: Misson Carr, Nottinghamshire. *British Journal of Entomology and Natural History* **10**: 258–262
- Waring, P. & Wright, S., 2003b. Field meeting report—17 August 2002: Misson Carr, Nottinghamshire. *British Journal of Entomology and Natural History* **16**: 268–272
- Waring, P. & Wright, S., 2004. Field meeting report—17 May 2003: Misson Carr, Nottinghamshire. *British Journal of Entomology and Natural History* **17**: 195–197

ANNOUNCEMENT

The future of *The Moths and Butterflies of Great Britain and Ireland*

During a thirty-year association with this series since its inception in the early 1970s, I have been able to ensure that it has survived and gained in quality and stature. Now in my seventy-fifth year, I am at an age when I feel the need to slow down and, with my wife Annette, to retire in order in the time-honoured phrase “to spend more time with our family”. Although we have had discussions with several other publishers who had expressed interest in the acquisition of Harley Books, which is only a two-person company, nothing has come of them. Nevertheless, we have no intention of leaving *MBGBI* in the lurch.

Despite our best efforts, progress on the remaining volumes has been halting and slow. It had been our hope to publish Volume 5 (Tortricidae) by the beginning of 2005 and at least part of the Geometridae the following year, but it has become apparent that a great deal of work still needs to be done editorially before either of these volumes can be put into production. These delays have made it necessary to review our future role and how the series can continue to be funded.

We have recently invited Dr Phil Sterling, the designated author of the final volume to be published Volume 6 on Pyralidae and Pterophoridae to join the editorial board and he has accepted with enthusiasm. Together with the senior editor, John Langmaid and others, he and we are seeking to establish a Trust, as yet unnamed, into which funds can be channelled to help finance the work in future. Contrary to common belief, the series has paid for itself only because neither I nor Annette have taken any salary for any of our work on Harley Books, and unfortunately have been unable to secure grants or funds, except in one instance, towards *MBGBI*'s heavy production costs. To date we have financed these ourselves but no longer feel able to do so. We confidently believe that a registered Trust with charitable and educational objectives based on the solid foundation of the work so far done, could be successful in raising funds, not only to finance production costs but also to pay for the cost of administration, editorial remuneration and further development. We would encourage anybody who believes they might have a contribution of any kind to make to the series especially financial to contact Phil Sterling who is in close touch with ourselves and John Langmaid.

It is our plan shortly to cease running the business side of *MBGBI* and to donate a significant part of the stock of volumes currently held in our distribution warehouse to the Trust. We will, however, continue to sell the other books we have published and also help with the sale of *MBGBI* but, after publication of the two remaining titles in the pipeline (not on Lepidoptera), we do not propose to publish any more new books. In completing these we will bring our programme to an honourable conclusion.

As soon as possible, further news will be disseminated via the journals and no doubt by word of mouth and e-mail. We would like to take this opportunity to thank all our *MBGBI* customers, many of them long-standing, for support and messages of encouragement over the years which we have greatly appreciated.

BASIL HARLEY
Publisher, Harley Books

BRITISH JOURNAL OF ENTOMOLOGY AND NATURAL HISTORY
VOLUME 17, PART 3, OCTOBER 2004

ARTICLES

- 131 Berberis sawfly, *Arge berberidis* Schrank (Hymenoptera: Argidae), a pest new to Britain.
A. J. HALSTEAD
- 137 *Brachycarenum tigrinus* (Schilling) (Hemiptera: Rhopalidae) new to Britain.
R. A. JONES
- 143 Is the Southern Green shield bug, *Nezara viridula* (L.) (Hemiptera: Pentatomidae) another species colonising Britain due to climate change?
M. E. A. SHARDLOW AND R. TAYLOR

SHORT COMMUNICATIONS

- 188 Combative behaviour in *Anomoia purpurina* (Harris) (Diptera: Tephritidae). R. BOYCE

PROCEEDINGS & TRANSACTIONS / SOCIETY NEWS

- 147 2003 Annual Exhibition
- | | |
|------------------------------|---|
| 147 British butterflies | 183 Hymenoptera |
| 150 British Macrolepidoptera | 184 Neuroptera |
| 155 British Microlepidoptera | 184 Dermaptera |
| 161 Foreign Lepidoptera | 185 Orthoptera |
| 169 Diptera | 185 Miscellaneous |
| 173 Coleoptera | 185 Correction to 2002 Hymenoptera report |
| 180 Hemiptera | 186 Winter insects |
- 187 Obituary
Dr John David Bradley. E. W. CLASSEY
- 194 BENHS Field Meeting Reports

BOOK REVIEWS AND NOTICES

- 136 The invertebrates of living and decaying timber in Britain and Ireland – a provisional annotated checklist by K.N.A. Alexander. R. A. JONES
- 142 Maria Sibylla Merian: The St Petersburg Watercolours. Introductory essay by E. Holman. J. BADMIN
- 146 Essex Parks by M. W. Hanson & Records and Members of the Essex Field Club. K. ALEXANDER
- 190 The Sepsidae (Diptera) of Europe by Adrian C. Pont & Rudolf Meier. C. M. DRAKE
- 191 Field Guide to the Moths of Great Britain and Ireland by Paul Waring and Martin Townsend. D. YOUNG
- 193 British and Irish Pug Moths – a guide to their identification and biology by A. M. Riley and the late G. Prior. D. AGASSIZ
- 142 Meisterwerke der Buchillustration. Jacob Hubner's "Geschichte europaischer Schmetterlinge (1793–1842)". CD-Rom.
- 142 Managing priority habitats for invertebrates CD Rom prepared by The Invertebrate Conservation Trust.

ANNOUNCEMENTS

- 186 Last call for flea specimens
- ibc The future of The Moths and Butterflies of Great Britain and Ireland. B. HARLEY

681
1552
.a

BRITISH JOURNAL OF ENTOMOLOGY AND NATURAL HISTORY





MCZ ERNST MAYR LIBRARY



3 2044 118 641 901

